THE

CHICAGO MEDICAL

JOURNAL & EXAMINER.

VOL. XXXIX.—AUGUST, 1879.—NO. 2.

[In these pages dimension and weight are expressed in terms of the Metric System, and temperature in degrees of the Centigrade Scale.]

Original Communications.

ARTICLE I.

LACERATION OF THE CERVIX UTERI. By A. REEVES JACKSON, A.M., M.D., etc., formerly Surgeon-in-Chief of the Woman's Hospital of the State of Illinois; Fellow of the American Gynæcological Society, etc., etc. Read before the Chicago Medical Society, July 7, 1879.

If Dr. Thomas Addis Emmet had done nothing more for the medical profession than tell its members what he has told them in reference to the subject of laceration of the cervix uteri, he would be entitled to their warmest gratitude. Not that he was the first to recognize the lesion as a distinct factor in the causation of uterine disease, for this had already been done, as early as 1856, by Dr. A. K. Gardner,* who speaks of "laceration of the os and cervix," as causes of ulceration, enlargement of the cervix, sterility, etc.: but to Dr. Emmet is due the credit of effectively calling attention to the frequency and pathological

*The Causes and Curative Treatment of Sterility, etc., by A. K. Gardner, A.M., M.D., New York, 1856.

importance of the injury, and, above all, of showing how to recognize and cure it. Indeed, he has written so much about it, and so identified himself with its history, that other observers have been able to do but little more than add to the number of his facts, corroborate his views and commend his methods.

Though it is not to the lot of all to be discoverers of important truths, all may aid in their dissemination; and I hold it to be the duty of those who have found themselves benefited and their hands strengthened by the observations and experience of others, to assist, so far as it may be in their power, in extending these benefits to their fellows. Herein lies the reason why, although I have no new facts to offer, nothing, indeed, but the meagre results of my own experience, I yet feel warranted in asking your attention to this subject; one whose interest and import are not, I am sure, duly appreciated by the profession at large.

If it were in my power to do so, I would like to make every member of this society, and every member of the medical profession, understand and realize that injuries to the uterine cervix during the process of parturition are not of rare and occasional happening, but that they are, on the contrary, of extremely frequent occurrence; that these lesions are not trivial in their nature and consequences, but that they are often of great and enduring pathological moment; that they are frequently the undiscovered cause of many of the derangements of health in women which have been and still are habitually attributed to other sources and conditions; that the venerable myth "ulceration," and its Fidus Achates, enlargement of the cervix, are so rare (except when the seat of malignant disease) that we may reach a ripe old age without seeing either of them; and that these terms, in such common use, may and should be in almost every instance rendered "laceration of the cervix." When these truths—for such I hold them to be—are known and accepted, there will not, I trust, be so many nervous, weak-backed, tired-out women as now crowd our waiting-rooms; we shall hear less of the uselessness of pessaries for "falling" wombs, less of amputation for enlarged ones; know less of failures to cure "the whites;" see less of pallid patients who wander—hopelessly at last—from one doctor to another, only to have repeated, by each one in

turn, the "burning off" of the ulcers! This was the ordeal through which all womb-ailing women formerly passed, and through which thousands are passing now.

Until within the past two or three years the literature of cervical laceration was very scanty. In the autumn of 1862, Emmet* accidentally discovered the existence and importance of the injury, and devised an operation for its cure. Seven years later he published a paper,† in which the details of the operation were fully described. In November, 1874, he published another paper,‡ giving prominence to the frequency of the lesion, and the relation it bore to the etiology of pelvic disease; and in December, 1876, he read still another paper before the New York County Medical Society, on "The Proper Treatment for Laceration of the Cervix," which was subsequently published.§ A few additional papers by Wing,‖ Baker,¶ Breisky,** Dudley†† (two), Goodell ‡‡ and Mundé, §§ constituted about allthe published writings upon the subject until the appearance of the recent work of Dr. Emmet (op. cit.), in which it is treated systematically and with great fullness.

Dr Emmet gives a graphic description of the manner in which he detected the presence of the laceration, and the first case upon which he operated. The patient had been an invalid for several years, and had been treated for menorrhagia and hypertrophy of the uterus with an extensive erosion. The latter had, with great care, been healed several times, but a relapse always occurred. Attributing his want of success to the condition of his patient's general health, which was very much impaired, he had almost despaired of affording her any permanent relief. He says:

While making a digital examination one day, I was puzzled to account for the greater width of the cervix in comparison to that of the body

---

* Principles and Practice of Gynæcology, p. 445.

† *Amer. Jour. Obstetrics*, Feb., 1869.

‡ *Amer. Jour. Obstetrics*, Nov., 1874.

§ *American Practitioner*, Indianapolis, Ind., Jan., 1877.

‖ *Bost. Med. and Surg. Jour.*, March, 1876.

¶ *Ibid*, Sept. 27, 1877.

** *Wiener Med. Wochenschrift*, 1876.

†† *New York Med. Jour.*, Jan., 1878. *Chicago Med. Jour. and Exam.*, Mar., 1878.

‡‡ "Laceration of the Cervix Uteri." The address in Obstetrics delivered before the Medical Society of the State of Pennsylvania, by Wm. Goodell, A.M., M.D., May, 1879.

§§ *Am. Jour. Obstetrics*, etc., Jan., 1879.

beyond, a condition I had for the first time appreciated. I placed her on the left side, and with Sim's speculum brought the cervix into view. I drew the posterior lip forward toward me with a tenaculum, but with no special purpose, when I was surprised to observe that it had decreased to nearly half its previous size. On lifting up the anterior lip with a tenaculum in the other hand, so as to bring the two portions in approximation, the outline of a cervix presented, of nearly a normal size. The difficulty was at once apparent, for the parts had rolled back within the uterine canal, and a deep lateral fissure became evident, which extended on each side entirely through the cervix and beyond the vaginal junction. On separating the flaps and forcing them back to their former position, I saw the tissues gradually roll out and the cervix again present its previous appearance. There could then be detected no appearance of laceration, and with the reduplication ot the vaginal tissue over the sides of the uterus, as I have already described, the cervix presented a normal length above its apparent junction with the vagina. The remedy at once suggested itself; the operation was performed. * * * On completing the operation, the uterus was five inches in depth; it rapidly reduced in size, and in time all evidence of local disease subsided.

My own attention was called to this subject more than four years ago, in connection with a case which was almost the counterpart of the one just related.

Mrs M., thirty-two years of age, the mother of three children, the youngest of whom was five years old, had been under my care about two years, with occasional intermissions. She had become as tired of me as I was of her, when one day she asked me whether I thought she could be cured if she went to New York. I felt piqued by the question, which aroused in me a fresh interest in her condition. I had a short time before been reading Dr. Emmet's paper, already referred to, on the subject of laceration of the cervix, and it occurred to me to ascertain whether my patient might possibly be suffering from such an injury. Accordingly I placed her in the knee-chest position, and introduced a perineal elevator into the vagina. The latter became widely distended, and I was afforded a full view of its anterior and lateral walls, and the vaginal portion of the cervix. But the parts appeared so differently from what I had been accustomed to see, that I almost doubted their identity. Prior to this time I had always examined her in the dorsal position, the head and shoulders being raised. In that posture, and also when the patient was on her feet, the lower part of the uterus was found just within the vulva, and a finger could be passed into the vagina to the depth of two and a half inches before it reached the apparent utero-vaginal junction. Now, however, as the weight of the uterus carried it from the vulva and drew out the vaginal walls to their full length, I saw that the erosion, instead of appearing, as formerly, to involve a flattish surface nearly two inches in diameter at the end of an elongated cervix, was depressed in the middle, and reached not only to but beyond the vaginal junction; while the vaginal portion of the cervix was

actually but little longer than it should be. Subsequently, aided by an assistant, I brought the anterior and posterior flaps together with tenacula, and the red eroded tissues were rolled in out of sight, and the mushroom shaped thickening of the cervix at once disappeared. In short, it was evident that I had before me a typical case of bilateral laceration of the cervix uteri, which I had been typically maltreating for something else. I had been trying, *secundum artem*, to cure this patient of a granular erosion of the os uteri, with enlargement and elongation of the cervix uteri, prop erly speaking, neither of these conditions were present, or at least, only as symptoms.

Although this was the first case in which I discovered the lesion, it was not the first in which I operated; for, before I could obtain the consent of Mrs. M.—or rather that of her friends—to have an operation performed, I had succesfully operated upon another lady in whom, guided by my experience in the former case, I diagnosticated a laceration at the first examination.

Down to the present time I have operated twenty-three times for this malady. In one case the operation was followed by a rather severe attack of pelvic cellulitis, from which, however, the patient recovered, and the operation succeeded. In another case, there was secondary hæmorrhage, requiring the vaginal tampon. In three cases the parts failed to unite—in two completely, in one partly, results due, I believe, to the lack of sufficient and proper preparatory treatment. In two of these, a second operation was successful; the third declined further treatment.

Frequency.—The experience of Dr. Emmet, based upon 500 cases, observed in private practice leads him to affirm that 32.80 per cent., that is, nearly one-third, of "all women who had been impregnated, and had suffered from some form of uterine disease, were found to have laceration of the cervix;" and he concludes his consideration of the subject by stating that "at least one-half of the ailments among those who have borne children are to be attributed to laceration of the cervix."*

While I believe that there are few who would go so far as to endorse this statement unconditionally, I am of the opinion that, if all cases of laceration, slight and severe, be included, he

* Loc. Cit., p. 480.

is not wide of the mark; certainly, he is more nearly correct than are those who regard the injury as of rare occurrence. The conclusions of other observers whose attention has been directed to this point, do not greatly differ from those of Emmet. Thus, Dr. P. F. Mundé* found 119 lacerations in 700 women examined; and Dr. Goodell † says, "My own experience at the Dispensary for Diseases of Women at the University of Pennsylvania, would lead me to infer that about one out of every six women suffering from uterine trouble has an ununited laceration of the cervix."

I am aware that this great frequency of the lesion has been denied, but it is evident from what has already been advanced, that any one who has not given special attention to it—who has not looked for it—and who, above all, has not adopted the proper means for detecting it, can hardly be in a position to form a just opinion upon the question.

Causes.—Previous organic disease of the cervical uterine tissues doubtless predisposes to the accident. Cervical metritis, for example, whether in its soft or indurated stage would interfere during parturition more or less efficiently with the gradual and uniform dilatation of the parts upon which the integrity of these latter depend. So, likewise, would the rigid cicatricial condition of the os and cervix, which is so frequently found as the result of the long continued application of nitrate of silver, caustics, etc., for real or fancied disease.

Among the exciting causes may be ranked obstetric operations, as turning, the use of forceps, etc., not necessarily from carelessness or lack of skill on the part of the obstetrician, but because these manœuvres require a certain amount of manual force, and also because of the state of the parts which frequently makes their employment necessary. Of course, such an untoward result is more likely to follow these procedures if they be attempted before the os uteri is in a suitable condition of dilatation or dilatability. A laceration may likewise occur in consequence of an undue violence in delivering the placenta. Other causes of this character are, the administration of ergot in unsuitable cases, especially before dilatation has been accomplished; the premature

* Loc. Cit.
† Loc. Cit.

rupture of the fœtal membranes, whereby their soft and insinuating pressure is replaced by the more unyielding head.

I have had the impression that rapid labors, by not affording sufficient time for normal dilatation, would be found to be a cause of laceration, but an examination of the tables furnished by Dr. Emmet, seems to show that such is not the case. In 164 cases in which the character of the labor was ascertained, it was rapid in 30, tedious in 50 and natural in 21.

Varieties.—The injury varies both in direction and extent. It may involve only the anterior or posterior lip or both; it may be transverse or oblique. The rent is not always in a straight line, but is sometimes curvilinear, or at least it assumes this direction during the healing process.

In extent, too, it varies greatly; in some cases involving only the edge of the os uteri to the depth of a quarter or third of an inch, but in others passing quite across the crown of the cervix, and in still others extending to and beyond the vaginal junction. Dr. Emmet * mentions several instances in which the rent, passing the cervical limits invaded the bladder and posterior culde-sac respectively, leaving as a consequence, in the former case, either an extensive fistula involving all the injured parts, or, where partial spontaneous union subsequently occurred, either a small vesico-vaginal fistula just in front of the cervix, or a vesico-utero fistula, through which urine might escape from the bladder into the uterine canal at a point as high as the internal os uteri or even above.

Lacerations which do not extend to the vaginal junction are called incomplete, while those which reach to or above that point are said to be complete.

There is another variety of the injury besides those mentioned which may also be termed incomplete. It is that in which the rent does not involve the entire thickness of the cervical wall. Emmet describes these cases as follows: "It would seem as if partial laceration took place from the internal os downward on different sides through the mucous membrane and deeper tissues, without extending to the vaginal surface of the cervix, making

* Vesico-Vaginal Fistula, etc. By Thos. Addis Emmet, M.D. Wm. Wood & Co., New York.

folds not unlike those between the ribs of a partially opened umbrella, which disappear when it is fully opened out. Through the patulous os and canal the mucous membrane is seen prolapsed, and its appearance is like that presented after dilating with a sponge tent a partial contraction of the canal which had taken place above, but had not yet extended to the external os. The cervix is frequently but little enlarged in diameter, but its walls are seen to be thinner than natural."

Yet other varieties than those enumerated result from the number of fissures. If there be but one, to the right or left, it is said to be unilateral; while, if there be one on each side it is bilateral; should there be still more, trilateral, stellate, etc.

Of all the varieties of laceration, Dr. Emmet believes that those in the antero-posterior direction are the most frequent, but that, owing to the fact that the patient is enforced to maintain the recumbent position for some time after labor, the pressure of the lateral walls of the vagina maintains the torn edges in contact until union occurs, leaving only a cicatricial line to mark the site of the injury. My own experience, much more limited, certainly, does not, however, coincide with that opinion. Although since my attention was first called to this subject, I have carefully looked for the evidences of previous laceration, I have not found them nearly so often in the anterior and posterior lips as in a transverse direction; and I think we might in advance suppose that this should be the case from the fact that the cervical walls are thinner in this direction than in the other. However this may be, it is quite certain that lacerations through the anterior or posterior lip are much more apt to heal spontaneously than are those in other directions, because of the lateral pressure of the vaginal walls; and, also, that even where spontaneous union does not take place, the same force tends to present the serious consequences which result from the eversion of the cervical lining which so much more commonly occurs in the other varieties of cervical laceration, especially the bilateral, provided they be of sufficient extent.

Progress, Symptoms, etc.—Lacerations which involve only the edges of the os uteri frequently, perhaps generally, heal spontaneously before the woman leaves her bed.

Those which occur in a forward or backward direction, even when complete, may likewise unite and leave little or no trace, the raw surfaces being kept in contact in the manner already indicated.

Most of the cases met with in practice are those in which the laceration is in a transverse direction, and in which it has passed beyond the crown of the cervix. In nearly all of these, especially where the rent has extended to or beyond the vaginal juncture — the intra-cervical membrane becomes everted. Its delicate covering accustomed to contact with only its own alkaline secretion is now constantly bathed with the acid secretion of the vagina, which acting as an irritant, soon causes removal of the epithelium. This abnormal state of the parts prevents or retards the proper involution of the uterus, which, consequently, remains enlarged and soft. All these unfavorable conditions are increased so soon as the woman quits the bed and gets upon her feet. Then the heavy uterus, inadequately sustained by its supports, presses upon the floor of the pelvis. The intra-cervical surface of the posterior flap of the laceration impinges upon the corresponding vaginal wall, while the anterior flap is pushed toward the vulva. The everted and eroded surface now suffers additional irritation from the pressure and chafing to which it is subjected. Under these circumstances the flaps are forced farther and farther apart; the extruded lining membrane, by reason of its interrupted circulation, becomes thickened and congested, and thus assists in its own out-rolling. The uterus being in a state of fatty degeneration (the first stage of involution only having been accomplished), the flaps are soft and yielding. Their inner surfaces are hence readily flattened out against the vaginal walls, and the entire cervix finally is everted, the internal os uteri becoming the lowest portion of the organ, and appearing at what seems, owing to the reflection of the vaginal tissue, a very long and very broad crevix.

The nabothian glands, thus exposed, are at first stimulated to undue activity, as evinced by the greatly increased quantity of secretion poured out by them, and which constitutes the glairy, tenacious discharge, which is so characteristic of endo-cervical inflammation. By and by, they become diseased. Their excretory

ducts close, and their contents being thus retained, they enlarge and form protruding roundish masses, varying in size from that of a millet-seed to that of a grain of barley. Some of these rupture, and their inclosed mouths present an appearance of increased roughness and rawness to the already eroded surface. Before bursting they may frequently be felt as small shot-like bodies in the tissues.

When the injury is confined to one side, the eversion of the cervical lining is not so marked, and occasionally does not occur at all, even when the rent has extended to the vaginal junction. In these cases there has usually taken place some degree of union at the bottom of the fissure, and the cicatrix thus formed restrains, partially or wholly, the tendency to protrusion.

Symptoms.—The symptoms produced by laceration of the cervix consist of various pains in the back, hips and thighs; a sense of weight and "dragging" in the pelvis increased in severity when the patient is in the standing posture, or has undergone any unusual amount of fatigue. Leucorrhœa is nearly always present, and the discharge is sometimes tinged with blood. Menstruation is frequently though not always disturbed. Usually the flow is increased in quantity, and appears after shortened intervals; metrorrhagia is also not infrequent. On the contrary, in a smaller number of cases the menstrual discharge is diminished in quantity. Sexual appetite is frequently impaired, and sometimes abolished entirely. Neuralgic pains referred to the region of the cervix, sometimes of great intensity, are present in some instances.

In the worst class of cases no long time elapses before the lack of exercise and the persistence of pain and exhausting discharges, produce their legitimate results upon the general health. Digestion is impaired, the appetite fails, the bowels become constipated, assimilation is interfered with. A lessened supply of impoverished blood produces pallor and sallowness of complexion, debility, disturbed and insufficient sleep. The stomach, liver, bowels, kidneys and especially the bladder and rectum all contribute their quota of sympathetic manifestions and combine to render the woman's life utterly wretched.

One of the notable effects of the injury as pointed out by Dr.

Goodell * is that of sterility. He says, "This lesion is so common a cause of sterility that I always suspect its existence whenever a guileless woman stops bearing after her first labor."

As a rule, the severity of the symptoms, local and general, resulting from laceration of the cervix, are in direct proportion to the extent of the injury, and especially to the amount of ectropium present. But this is by no means always the case. I have known some instances in which the laceration was of very moderate extent, and in which only a small portion of the cervical lining membrane was extruded, and yet the patients were obliged to be in bed the greater part of the time on account of uterine and ovarian neuralgia, dysmenorrhœa, pains in the back and pelvis, general anæmia, etc.; while, on the other hand, I have in mind one case in which, with a transverse laceration extending on both sides from the os uteri quite to the vaginal junction, with accompanying extensive eversion, the woman was able to perform her usual household duties. These anomalies of the relation between cause and effect are not, however, as is well known, confined to the injury under consideration. The history of disease —of pelvic disease, particularly—is full of them. The extent to which women suffer from a given amount of disease or injury of the reproductive organs is greatly influenced by the social condition and surroundings of the patient. Those in the higher ranks of life, who live luxuriously, whose nervous systems have been unduly and unsystematically developed at the expense of the osseous and muscular, suffer most, for in them is engendered an unnatural tendency to irritability and emotional and sensational disorders.

Diagnosis.—It would seem that, from the accessibility of the parts both to touch and sight, nothing could be easier than the recognition of a laceration of the cervix uteri; but the fact that it eluded discovery by so many expert and earnest workers for so many years, shows that what appears to be so simple a matter is really not so. And, if any one should still entertain a doubt upon this point, Dr. Emmet's testimony is surely sufficient to remove it. He says,† "It was fully six years after my first

* Loc. Cit.

† Principles and Practice of Gynæcology, p. 447.

operation before I had gained experience enough to detect this lesion under its varied forms."

No doubt the tardy recognition of the injury, and the difficulties attending its diagnosis may be explained by the fact that ocular examination of the parts is usually made with tubular or valvular specula; and these instruments, especially the former, by their peculiar action prevent rather than facilitate the revelation of the condition. Another circumstance which leads to error is that women are commonly examined while lying on the back, with the head and shoulders elevated. In this position the heavy uterus is found low down in the pelvis, and, carrying with it a reflection of the vagina, the vaginal portion of the cervix acquires a fictitious elongation, to the extent, sometimes, of more that two inches. At the same time the forces which separate the flaps of the laceration also cause these latter to present a flattened surface of eroded tissue from one to two inches across, with the apparent os uteri externum in the center. Looked at in this state, all appearance of laceration is lost.

The conditions with which laceration is liable to be confounded are, simple granular erosion, thickening and elongation of the cervix, ulceration and epitheloma.

Erosion of the os and cervix uncomplicated with laceration, is usually caused by the irritating contact of uterine catarrhal discharges; and to show how comparatively rare this condition is, I may mention that, among the 700 women examined by Mundé, and who furnished 119 cases of erosion *with* laceration, there were but (11) eleven cases *without* that complication.

Where there is actual enlargement of the cervix, the part is gradually increased in diameter from below upwards towards the body of the organ; whereas, when a laceration with eversion is present the lowest portion is the largest; and between it and the part above there is formed a more or less distinct neck or narrowed portion, so that its shape has been compared to that of an inverted mushroom. Hence, when by the touch this constricted portion can be felt, a laceration may be suspected.

I do not wish to be understood as implying that there may not be actual enlargement of the cervix when the latter has been lacerated. In point of fact, the irritation to which, in cases of

marked eversion, the cervical lining is subjected, the cystic degeneration of its glands, and the continually increasing obstruction to its circulation combine to produce what Klob denominates a "formative irritation," which results in increased growth.

But the touch is not sufficient to enable us to distinguish a laceration from true elongation of the cervix, a condition, by the way, which Emmet affirms has no existence. Whether in this he be correct or not, the *apparent* elongation of the cervix which is present in some cases of laceration may always be made to disappear by placing the patient in the knee-chest position. The superincumbent pressure of the intestines being thus removed, and the uterus permitted to fall *away* from the pelvic floor rather than *toward* it, the vagina is pulled out to its full length, including the reflected portion which has been carried down by the cervix, and the true cervico-vaginal junction is at once seen.

Any one who has observed the appearance presented by the red, roughened, eroded cervical lining in a case of laceration of the cervix, need not be told how easy it is to mistake it for a true ulceration of the part. But, if by the term ulceration of the cervix we mean to imply a loss of substance other than epithelial, it is a comparatively rare condition. The only true ulcers of this part are those produced by friction when the uterus is procident, or which are the result of chancroid or carcino-matous disease.

The extruded lining membrane studded with enlarged follicles, elevated and swollen, bleeding readily, and bathed with mucopurulent secretion has not infrequently been mistaken for malignant disease, and, it is reasonable to suppose, that some of the cases of reported permanent cure by amputation, cautery, etc., of supposed carcinomatous enlargement of the cervix, have really been cases of laceration with extensive eversions.

Now, from all other conditions presenting a red, eroded or ulcerated surface, and from all those which are accompanied by enlargement, laceration may be distinguished with the utmost certainty and precision. It is done as follows: Place the patient in the semi-prone position, or, still better, the knee-chest position. Introduce Sim's duck-bill speculum or other form of perineal retractor, and when the vagina is sufficiently distended insert small

tenacula into the sound mucous membrane in front and behind, just beyond the edge of the eroded surface. If now, by approximating the points of the tenacula the erosion can be rolled into the cervical canal, and the vaginal portion be made at the same time to present a comparatively normal shape and size, it is a laceration. With no other condition can this manœuvre be made with these results.

If the laceration has healed without union, and there be left a fissure to mark its site, there can be no difficulty in recognizing it. But this result does not commonly occur unless the laceration has been unilateral; and these cases, so easily detected, are not of great pathological importance, for they are not attended by the out-rolling of the cervical lining which is generally the essential cause of the symptoms resulting from the injury. In by far the greater number of bad cases no cleft or fissure whatever is apparent either to sight or touch.

Treatment.—Many of the distressing symptoms, backache, pelvic pains, leucorrhœa, may be greatly benefited by rest in the recumbent position, vaginal injections of hot water, glycerine tampons, astringent and caustic applications, etc. By persistence in the use of these means in conjunction with the internal administration of ergot, strychnia, iron, etc., and such other constitutional remedies as may be indicated, patients afflicted with laceration, even in some of its severer forms, may be kept in a fairly comfortable condition; and where the injury is slight and unaccompanied with marked eversion, a permanent cure may sometimes be effected. Usually, however, soon after their use is discontinued, and the patient resumes her ordinary duties, the former symptoms manifest themselves anew, and she becomes as miserable as before. This result is quite certain to occur if the injury has been so extensive as to permit much eversion.

When, in consequence of its increased size and weight the uterus has become retroverted and prolapsed, much relief may sometimes be obtained by raising the organ to its proper position and supporting it with a suitable pessary. This not only serves to lessen the uterine congestion by promoting the emptying of the uterine veins and sinuses, but it also prevents the extruded and eroded mucous membrane from pressing and rubbing against

the vaginal walls. However, the use of pessaries is not always feasible. In some cases there is present so great a degree of tenderness in and about the uterus as to preclude the slightest pressure from an instrument, while in others the cul-de-sac is so effaced by the contraction of cicatricial bands and post-uterine inflammatory deposits as to leave no resting place for the upper end of the pessary, which, consequently, has a constant tendency to slip forward over the cervix and take a position between it and the bladder. In this position it not only ceases to be of benefit but is positively hurtful.

I may say, in passing, that I regard those cases of retroflexion and retroversion of the womb as practically incurable in which the body or fundus is bound down by adhesions, or where, without adhesions, the displacement is accompanied either by a very shallow cul-de-sac or a very short vaginal portion.

When the use of a pessary is indicated I prefer a Hodge closed lever, or some one of its modifications, especially that of Dr. Albert Smith.

For the relief of the tender and painful condition of the parts just referred to, I have found the following plan satisfactory: Once a week I abstract from the cervix a half ounce to two ounces of blood, by numerous punctures with Buttle's lance. The punctures are made directly into the eroded mucous tissue and into any cystic glands that may be apparent. When these latter are small and very abundant short incisions are preferable to punctures, as they are less likely to close subsequently. The operation is followed by the application to the cervix of a glycerine tampon on which has been sprinkled two or three grains of iodoform. When the odor of this agent is objected to I replace it with one grain of sulphate of morphine. In addition, I direct a hot water vaginal injection to be used every night at bedtime—except on the day of scarification—and a glycerine tampon unmedicated, to be placed every morning. All this local treatment is suspended during the menstrual period. I need hardly say that the blood-letting, even to the slight extent advised, is contraindicated in the case of patients who are anæmic and in whom the blood-making power is impaired.

By the judicious use of these means for a few weeks we may

frequently be enabled to use a small pessary (the instrument should never be large) where at first it would have been impossible to do so.

But, as already intimated, all the foregoing means are at best uncertain, always tedious, and generally ineffectual. It is fortunate, therefore, that we have a remedy which is both safe and certain; one which not only removes the symptoms of the disorder but which restores the parts to their normal condition.

I refer to the plastic operation devised by Emmet, and to which my friend Dr. E. C. Dudley has given the distinctive name *trachelorrhaphy*.

This operation is one of the most successful with which I am acquainted, and when its simplicity and freedom from danger are considered in relation to the amount of benefit which it is capable of conferring, one of the most useful in uterine surgery.

Treatment preparatory to the Operation.—In most cases where the operation is decided upon, some amount of preparatory treatment is beneficial and in some it is absolutely necessary.

It should be an inflexible rule in plastic surgery to have the parts in a healthy condition, if possible, before any operation be attempted, otherwise full success cannot reasonably be expected. To lack of attention to this rule I think may be fairly attributed many of the failures of operations undertaken for the cure of vesico-vaginal fistula, ruptured perineum, vesicocele, etc. In lacerations of the cervix it is not always possible to bring the parts into this desirable state of local health, because their displacement is incompatible with it; still it may always be approximated.

The proper preparatory measures should be such as tend to remove or lessen uterine congestion; as the daily hot vaginal douche, the evacuation of the cervical cysts, the local obstraction of blood, the glycerine tampon, etc.; in short, just such means as have been detailed under the head of palliative treatment. No attempt should be made to glaze over the eroded surface with the solid nitrate of silver, formerly, and, I fear still, the common practice. The improvement produced in the appearance of the part by this measure is fallacious. The dense cicatrical tissue thus formed, by enclosing and compressing the peripheral nerve

filaments almost invariably causes uterine and ovarian neuralgias, diminishes or destroys sexual appetite, and leads to various other nervous and psychological disturbances.—(Goodell).

The existence of marked tenderness as a result of inflammation in the neighborhood of the uterus or broad ligaments, is a contra-indication to an operation; but the presence of old inflammatory exudations which are not the seat of tenderness or pain, I do not consider so, provided there be no present uterine congestion. For the operation, if carefully performed, without dragging the uterus from its position, is less likely to re-establish fresh inflammation than is the continuance of the laceration. I have operated two or three times under these circumstances without any untoward result.

The best time for the operation is between the third and seventh day after a menstrual period; as the pelvic organs are then physiologically more quiescent than at any other time, and besides, sufficient time is afforded them to recover entirely before the onset of the next period.

The patient should take a laxative dose of medicine in the afternoon of the day preceding that of the operation; and I find it well also to have an enema of warm water given on the following morning — say an hour before the operation.

Operation. — All being in readiness, the operation may be performed as follows: The patient, being etherized, is placed on her back on a firm table, which need not be more than four feet long. She is drawn forward so that the hips project three or four inches beyond the edge, and each lower limb is given in charge of an assistant, by whom the thighs are flexed upon the abdomen. The operator then passes one or two fingers of the left hand into the vagina, and with the right introduces the blade of a perineal retractor. (I prefer one of this sort for the purpose: it is a modification of that of Simon, and has a much shorter and much flatter blade than Sim's duck-bill.) This is guided to its position in the posterior cul-de-sac by the fingers in the vagina, and the perineum being pressed downwards while the vaginal walls are separated by the fingers, the cervix is readily brought into view.

One of the assistants now takes charge of the retractor with

his disengaged hand. The anterior flap of the laceration is seized with a small double-hooked vulsellum, and, aided if necessary by supra-pubic pressure, the lower portion of the uterus is brought quite to the vulva. Both flaps are now approximated, with the view of determining accurately the proper position of the external os uteri, the extent of the laceration, the quantity of tissue to be removed, the number of stitches requisite, etc. These points having been settled, a curved or rectangular needle, fixed in a handle, and having its eye near the point, is passed through the posterior flap at a point which is to mark the middle of the os uteri; it carries a strong silk suture, the loop of which is seized when it appears, and the suture is left in the flap on the withdrawal of the needle. The same process is repeated with the anterior flap. By means of these sutures, complete control of the cervix is had throughout all the subsequent steps of the operation. They should be sufficiently long to enable the assistant who has them in charge to draw them in any needed direction, without at all incommoding the operator.* I formerly used a single thread, which passed through both lips, but this prevented the separation of the latter when they were drawn upon, and I find it much more convenient to transfix each separately, so that either lip can be acted upon independently of the other.

The surfaces of the parts to be joined together are next made raw. I prefer doing this with scissors, as being a more expeditious and less bloody mode than that by the knife. The thickness of tissue to be removed depends somewhat upon the shape of the flaps. If their inner surface be full and rounded, the convexity should be wholly ablated. A safe rule is to remove enough to permit the opposing sides to be brought *easily* into contact, so that there may be no undue strain upon the stitches. Emmet lays much stress upon the necessity of removing all cicatricial tissue, regarding its presence as a frequent cause of neuralgia. Care should be taken to not freshen the surfaces too near the central portion of the flaps, lest their subsequent adhesion should result in obliteration or narrowing of the external os. A space

* I find that Dr. Goodell makes use of a similar device. He "passes on each side of it" (the os externum), "through both lips of the cervix, a long iron-wire suture."

at least one-half inch long should be left for this opening; for the subsequent shrinking of the part will reduce this to about the proper size. Indeed, a still more liberal provision for the outlet ought to be made, if there be present very great hypertrophy of the uterus.

The opposing denuded surfaces should be equal in length and width, so that when brought together coaptation may be accurately made.

Usually but little hæmorrhage attends the freshening of the tissues, although in some cases it is sufficiently profuse to delay the operation somewhat. The only artery likely to be injured is the circular, which passes near the vaginal junction, sometimes just within the outer angle of the fissure, and great care should therefore be taken to not cut deeply when paring the edges at this point. The capillary bleeding commonly ceases directly the sutures are tightened.

The passing of the sutures is sometimes very difficult, owing to the thickness and density of the tissues. It is necessary to have a strong needle holder, one which permits the needle to be placed at any angle. The needles should have a cutting edge near the point, and should vary in length from three-fourths of an inch to an inch and a quarter; they should be thick enough to allow of a large eye through which the loop of a doubled silk thread may pass. The eyes of most needles are too small.

The first suture is passed at or near the inner angle of the fissure. The part being steadied by means of a firm tissue-holder, the needle is entered about a quarter of an inch from the edge of the freshened surface, and made to emerge just at the edge of the undenuded strip which has been left to form the continuation of the uterine canal; it is then re-entered at the corresponding point opposite, and, passing through the other flap, finally issues at a point which corresponds with that of its first entrance. A silver wire of suitable length is then connected with the loop, and is left in place on withdrawal of the needle, in the usual manner. It is immaterial through which flap the needle is passed first. The number of sutures required will vary according to the length of the fissure. Usually, from two to four are

needed on each side. They should be placed about one-third of an inch apart.

In my more recent operations I have adopted a different plan from that just described, for passing the sutures, in all cases in which the cervix could be brought sufficiently within reach; that is, I have used a small perineal needle in a fixed handle, with the eye near the point. With this I transfix both flaps, and when the eye of the needle emerges from the second one, it is directly threaded with the silver suture. The needle is then withdrawn, leaving the wire in place. In this way the sutures are inserted with great accuracy and rapidity.

Either silk or silver wire may be used for the sutures. I prefer the wire, because, perhaps, I am accustomed to it, and know it to be reliable. Dr. A. J. Skene,* of Brooklyn, reports that he successfully uses silk, in every case obtaining a satisfactory result. If, upon further trial, silk be found equally trustworthy with the wire, the operation can be more quickly and easily done.

The sutures having all been inserted, the patient should be placed in bed, where, ordinarily, she ought to remain until the stitches are removed. This may be done as early as the eighth day, but I prefer, unless the prolonged confinement be especially irksome, or contra-indicated, to allow them to remain until the ninth or tenth. In one case, in which they were removed on the eighth day, the adhesion of the flaps was so feeble that they subsequently separated, and a repetition of the operation became necessary.

The operation is not a very painful one, and an anæsthetic, although desirable, is not always necessary. I operated on one patient without using any, and she subsequently stated that she suffered less from the pain of the procedures than she had on a former occasion from the nausea and vomiting following the inhalation of chloroform for the extraction of a tooth. And, in another case, in which Dr. Dudley kindly operated at my request, to exemplify the manner of Emmet, no anæsthetic was given, and although the operation lasted a full hour, the patient only com-

* Proceedings of the Medical Society of the County of Kings, June, 1878.

plained of the constrained position and the action of the Sim speculum.

Neither is there much pain or discomfort felt after the operation. Indeed, patients usually suffer so little from it that it is difficult to make them appreciate the necessity for lying in bed afterwards. And it is possible that this necessity has been overrated. Several times patients have, contrary to my directions, resumed many of their ordinary duties after the third day; in one case, on the second morning after the operation, I found the patient dressed and sitting up, and she informed me that she felt less discomfort in the parts than she habitually did before the operation. In none of these cases did the seeming imprudence produce any bad result or prevent a successful issue. Dr. Skene states that he has operated eight times at his office and sent the patients home in the street cars.

After Treatment.—At the close of the operation I am in the habit of placing in the vagina the ordinary cotton tampon saturated with glycerine, with a string attached to facilitate removal; and in the rectum a suppository of cocoa-butter, containing two grains of opium and one-sixth of a grain of extract belladonna. The tampon should be removed on the day following the operation, and the vagina should be carefully washed once or twice daily with warm water slightly carbolized. It is not necessary to prohibit the patient from leaving the bed to urinate, or for other necessary purpose. Rarely I have had to use the catheter once or twice. The bowels, if not open spontaneously, may be acted upon by a mild laxative, followed by an enema on the fourth or fifth day.

Among those who have investigated this subject and who have learned to recognize and treat the lesion — with few exceptions — there is no longer any doubt as to the safety, the efficiency, and in cases of *complete* laceration, of the necessity of hystero-trachelorraphy, as a means of cure. But there are a vast number of cases in which the laceration has been slight, in which the rent has not extended beyond the vaginal junction, perhaps only involving the crown of the cervix. In many of these cases the mucosa is only slightly everted, and there is no such apparent elongation or enlargement of the cervix as is seen in the more

typical cases. But the patient suffers from leucorrhœa, backache, possibly menorrhagia, and may present marked nervous disturbance. What should be done for these cases? These are the milder forms of "ulceration," and it is the experience of all gynæcologists that they may be cured by topical applications of an astringent and caustic nature. But the treatment by these means is tedious, usually covering several months and sometimes is not successful. Iodine, carbolic acid, nitrate of silver, iron and similar applications fail very often to do anything more than temporarily ameliorate the patient's condition. After each menstrual period she is usually found to have relapsed more or less, and after exhausting her patience—perhaps her purse, also—and the ingenuity of one doctor after another, she finally ceases her efforts and accepts a life of invalidism as best she may. Even in the most successful of these cases, several weeks of uninterrupted treatment are necessary to the cure. Cannot and should not these cases, like the more severe forms of laceration, be treated by the operation?

Dr. P.F. Mundé, in an admirable paper, already alluded to* advocates the practice on the ground that by means of the operation such cases can be more quickly and more certainly cured than by the methods in common use, and he adds by way of final argument: "Another reason why trifling ectropia should not be allowed to go on for years unheeded and untreated, was recently advanced by Prof. Breisky,† of Prague, who has observed and operated upon four cases of laceration, in which one of the everted lips had become carcinomatous in consequence of the irritation to which the exposed cervical mucosa was subjected." These observations are confirmed by Veit,‡ who, out of nine cases of carcinomatous cervices found three in which the disease originated in the enlarged glandular elements.

At a meeting of the German Gynæcological Society, held at Cassel, Sep. 12th and 13th, 1878, § Kugelman, of Hanover, expressed his disapproval of operative measures for the cure of such

* Indications for Hystero-Trachelorrhaphy. Amer. Jour. Obs., June, 1879.
† Wiener Med-Chirurg. Rundschau, Aug. 1877.
‡ Gyn. Sec. German Congress of Phys., 1877.
§ See Amer. Jour. Obs., Jan., 1879.

uterine ailments as were amenable to other less severe means of treatment, although the latter might require "much time and patience." In reply to this, Prof. Schröder said that "the patient, as well as the physician, needed time and patience," and that it was surely better for her to be freed from the trouble in a fortnight, by a safe and certain method, than to pass through months of treatment for an uncertain result.

Article II.

Practical Hygiene, As it Relates to a Proper Water Supply — The Defective Sewerage of Cities and Towns, Hospitals and Asylums.* By J. N. DeHart, M.D.

The importance of the observance of the laws of hygiene, as they relate to a proper supply of pure water, and the imperfect sewerage of our large cities and towns, hospitals and asylums, is only receiving, at the present day, but a small share of the public attention which they so urgently demand.

This paper will allude to some of the impurities that are found in water, as revealed by the microscope, and the diseases produced by them, together with the bad effects resulting from defective sewerage.

The want of a good supply of pure water for domestic purposes leads to many bad results, not only in a private residence, where the wants of a family are not very great, but also in large communities where many persons reside, and in hospitals and asylums where many hundred patients are collected together for the treatment of diseases. It not only gives rise to impurities of all kinds, but the person and clothing are not properly cleansed, or are washed repeatedly in the same water; water for cooking purposes is used scantily; houses are not cleansed, streets become dirty, and sewers are clogged; and in these various ways a lack of a proper supply of pure water gives rise to impurities in the air itself. As a result of the facts just stated, we have an im-

---

*This paper was read before the Wisconsin State Medical Society, at the annual meeting in Milwaukee, June 5, 1879.

pairment of the health of the population. The deficiency of water in the cleansing of sewers causes the development of typhoid fever and choleraic diarrhœa, and our records show that epidemics of the latter have been checked by a heavy rainfall. The supply of water is a matter of the most urgent necessity, where persons are undergoing great muscular efforts, and it is very important and proper that it should be furnished in small quantities and quite frequently given.

It may be true that water containing a small quantity of organic matter may be used for a short time with but slight ill effects, but its continued use has caused the development and spread of diseases in many communities.

In some of these cases, very little attention has been paid, or inquiry made into the state of health of those using the water, and that most fallacious of all evidence, *a general impression*, without a careful collection of facts, has often been the only ground on which the opinion has been based.

This much is certain, that as correct investigations are carried on, and careful microscopic examinations are made, a continually increasing class of cases is found to be connected with the use of impure water, and it seems only reasonable to infer that a more rigid inquiry will further prove the frequency and importance of this mode of origin of some diseases; animal organic matter, especially when of fæcal origan, vegetable organic matter, when derived from marshes, and some salts are the principal noxious ingredients of the dangerous substances; the suspended animal matter and especially fæcal matters, are probably the worst.

This is shown in outbreaks of diarrhœa and typhoid fever. This fact makes the chemical examination of the color and turbidity so important. The thoroughly dissolved organic matter appears less hurtful.

Probably, also, the more recent the fæcal contaminations, the more injurious, since it has been observed, that the most poisonous attacks occur near wells into which, after slow percolation for some time, a sudden gush of sewage has taken place.

Animal matters forming fatty acids produce salts which though not oxidizing into nitrous and nitric acid, are as hurtful as the more oxidizable substances.

There have been a variety of opinions expressed in regard to the action of minerals in water, which is used for drinking and domestic purposes. While there are some mineral substances, such as sodium chloride or carbonate, or calcium carbonate, which within certain limits appear to do no harm, yet there are other mineral substances, such as calcium, and magnesian sulphates and chlorides, and calcium nitrate, which are undoubtedly injurious to many persons; a combination of impurities, and especially the co-existence of organic matter and calcium sulphate is hurtful; this has been proven by the analysis of water which contains them and which has produced disease. As far as at present known, the existence of infusoria of various kinds is not injurious, though their presence may indicate the existence of an abundance of organic impurities.

That impurities of water do cause diseases by their action upon the membranes, with which they come in contact, may be proven by an enumeration of some affections of the alimentary mucous membranes, viz.: dyspepsia, diarrhœa, dysentery, etc.

In the first mentioned disease, the use of large and frequent doses of magnesian salts, calcium sulphate and chloride in water may produce it.

The latter diseases may be caused by suspended mineral substances of clay, mud, etc., as the waters of the Mississippi and Missouri rivers,* also the waters of the Ganges and other rivers, at certain periods of the year, especially to persons unaccustomed to their use. The scales of mica are said to have caused diarrhœa among the inhabitants of Dhumsala, India; also suspended animal and fæcal matters and vegetable substances have been the cause of sudden attacks of diarrhœa.

The former and latter when washed off the ground by heavy rains into streams and rivers which supply cities and towns, have caused an epidemic of catarrh of the alimentary canal, as is frequently observed in this country.

In the summer of 1876, owing to the very slight rain fall, the Croton river which supplies the city of New York with water, became so nearly dry that there was great fear that the city would

* Hammond's Hygiene.

lack a sufficient supply of water for ordinary use. During the following September there was a very heavy rain fall, and the vast water sheds which supply this river, were completely drenched; the decaying animal and vegetable matters which had been exposed to a long drought were carried down to the receiving reservoirs, and immediately following this heavy rain-fall, there was an outbreak of typhoid and malarial fevers within the hospitals of the city, as well as an endemic of diarrhœa and dysentery.

It is a well established fact that dissolved and putrescent animal organic matter, to the amount of 30 to 50 Ctm. per liter, may produce diarrhœa. Fæcal gases will cause catarrh of the alimentary canal, especially if organic matter be also present.

This was observed during the invasion of Mexico by the French, in 1861 and '62. This army suffered from a peculiar dyspepsia and diarrhœa at Orijaba, which was attended with the disengagement of gas and eructation of food, after meals. This gas was sulphureted hydrogen, and was traced to the use of water from sulphurous and alkaline springs. The symptoms of poisoning by water contaminated by sewage, are frequently similar to those already mentioned, viz., diarrhœa and dysentery, and sometimes irritations of the kidneys, liver, spleen and lungs. Pinel observed this fact 20 years since in the wards of Salpétrière, and Duchaulet noticed that the water furnished the patients at St. Lazare contained a large proportion of sulphate of lime, and other purgatives, which caused frequent attacks of diarrhœa. Nitrate of lime has a similar effect. Brackish water will also affect the mucous membrane lining the alimentary tract.

Occasionally animal organic matter acts in an indirect way by producing nitrates which act on metals. In illustration of this fact, a German physician, who was called to see persons who were supposed to have been drinking impure water, and became sick, found on examining the water, that it contained a considerable amount of copper. The cylinder of the pump was made of copper, and this had combined with some organic matter in the water and caused them to be poisoned.

The effect of drinking impure water is also frequently shown in the dysentery which develops among the soldiers who encamp

in the vicinity of swamps and marshes. In the late civil war, the Union army, while passing through the Chickahominy swamps of Virginia, suffered very much from dysentery. The water which they drank was mostly surface water. When a well was sunk, it seldom exceeded ten or twelve feet in depth, and the water always had a brackish taste, and frequently emitted a foul odor, especially if it had been allowed to stand in a vessel for a few hours.

The same impurities which produce dysentery are closely allied to those which develop diarrhœa. The fact that dysenteric stools can propagate disease, render it quite probable that, as in the case of typhoid fever and cholera, the accidental passage of dysenteric evacuation into wells may have some share in spreading the disease.

To the late Dr. Snow, of England, are we indebted for valuable researches relating to the dissemination of some diseases by the use of water for domestic purposes.

Malarious fevers are very prevalent in the vicinity of marshes.

It was Hippocrates who first asserted that those persons who drink the water of marshes suffer from an enlargement of the spleen. Other writers have not only confirmed this fact, but claimed that it generated fevers.

One very important circumstance is the rapidity of the development of malarious disease, and its fatality when introduced by water. We have the same result in the case of diarrhœa and dysentery. Either the fever-producing cause must be in larger quantity in the water, or what is equally probable, must be more readily taken up into the circulation and carried to the spleen, than when the same cause enters by way of the lungs. That typhoid fever may be developed by the use of impure water, as well as impure air, is a theory of quite recent origin; although as far back as the middle of the last century, one German physician advanced a similar opinion.

Dr. Flint in his clinical reports on continued fevers in 1852, alludes to an outbreak of typhoid fever, which occurred in North Boston, Erie county, N. Y., in 1843, and this was attributed to the contamination of the water by the contents of a sewer passing into it. That water may be the medium of propagating typhoid

fever, has been proven by the evidence of many English physicians and German authorities, such as Profs. Budd, Jenner, Wilkenson, Barclay, Seaton, Latham, Muller, Richter, Burkhardt and Wohlial.

Profs. Clark, Metcalf, Loomis and others of this country, have fully corroborated the views of these distinguished English and German physicians.

One English authority states that in cases where the poison is conveyed by water, the infection seems to be much more certain; and he has reason to think that the period of incubation is materially shortened.

The question may sometimes be asked, what is the proportion of cases of typhoid fever that are disseminated by the use of impure water, as compared with those that are caused by the inhalation of impure air? While no positive answer has yet been given to this question, yet it has been observed that when the dates of attacks are given, the incubation period in those who have drunk impure water appears to be very short; while it is probable that it takes from eight to ten days after the typhoid poison has entered with the air before the early malaise comes on; yet in some cases of typhoid fever produced by water, only two or three days were observed to elapse before the symptoms are marked. Will decomposing sewage in water produce typhoid fever, or must the evacuations of a typhoid patient pass into it?

This is part of the larger and important question relating to the origin and propagation of specific poisons. How often, everything is attributed to fæcal matters merely, without searching for other causes, which may be as potent as this, in the development of typhoid.

A recent number of the Berlin *Klinische Wochenschrift* contains an account of five cases in which infected water was the undoubted medium of contamination. A miller living on the bank of a small stream, was attacked with typhoid fever. His excreta were thrown daily into a small pond which was connected with the stream by a ditch. This man recovered, but seven weeks afterward, his brother, who alone nursed him, became ill with symptoms of typhoid. The discharge from the bowels were very profuse, and were, as in the other case, thrown also into the pond.

A few days afterwards four laborers, who were employed in a forge about one mile distant, were attacked with typhoid, and the medical attendant, anxious to discover the source of the mischief, found that all of these men obtained their drinking water from the stream in question, there being no well accessible. Another case also occurred, the patient being a farm laborer, who worked in a meadow near the forge, and also drank water from the same rivulet. No case of typhoid had occurred in this vicinity for a long time previously, and all the circumstances were in favor of the supposition that the disease had been transmitted through the medium of the water. There was no evidence as to the source of infection of the first patient, and the period of incubation was extremely long, particularly in the case of the brother. The history of this small epidemic tends to support Dr. W. Budd's view, that a specific agent must be present, for the production of typhoid fever. No doubt the water in the rivulet alluded to, often contained more or less ordinary fæcal matter. May we not infer from this, that the excreta of typhoid patients should be thoroughly disinfected, and when possible, as in country districts, should be deeply buried in places far removed from any source of water supply? The London *Lancet* has quite a full account of an outbreak of typhoid fever, in Glasgow, Scotland, and the source of infection was traced to the supply of milk from certain dairies; after the death of two prominent citizens, the sanitary officers of that city began an investigation which traced the contaminated milk supply to two large dairies. Though these circumstances were known, it was reserved for another medical officer conclusively to show that the two dairies in question were fed by a constant supply of water from an adjoining farm, where typhoid patients had lived for several weeks previous; and that the sanitary arrangements of this farm were very defective; that the excreta of the patients were thrown into a channel into which the water ran that supplied the two dairies.

The water with which the dairy vessels were washed was ob-obtained from the same supply. One hundred and sixty-three cases of typhoid were developed among the customers of these two dairies, and the death rate was about 10 per cent. Of seven students at the university who had the fever, three died. Should

not these melancholy facts lead to the proper and periodic inspection of town dairies and their country feeders? It is not a very pleasant thought to realize that disease may unwittingly be brought to our doorsteps every morning through the single medium of the most essential of all nourishing fluids for family use!

In one of our Western asylums, which had been supplied with water from an artesian well and several cisterns, the rapid increase of the population required a more abundant supply, and an iron pipe was laid to connect with an inland lake. This lake was fed by a river which received its supply from an extensive marsh. The sewage of the asylum, State university and many private residences was discharged into this lake.

The use of the artesian well and cistern waters were discontinued in the wards of the asylum about May, 1, 1877, and a very abundant supply of water was obtained from the lake.

No malarial nor typhoid fevers had developed in the wards of the asylum, while the artesian and cistern waters were in use.

About one month after the lake water was introduced, a case of well marked typhoid was developed in one of the male wards. The patient died on the morning of the 21st day from the attack, having had a hæmorrhage from the bowels in the evening of the 19th day.

Other cases of intermittent, remittent, typho-malarial and typhoid fever continued to develop during the summer and fall, and also during the winter months. The fever appeared both in male and female wards, and patients and employes were alike attacked by them.

Some cases of typhoid were accompanied with severe gastric symptoms, which seemed to baffle all remedies. In one case, that of an employé, the gastric symptoms were very severe, and for about ten days both medicine and nourishment were rejected. There was also a persistent diarrhœa, with marked tympanitis. Subsultus was present, and during the third week there was a wild delirium. A hæmorrhagic discharge from the bowels occurred in the evening of the 19th day, which had been preceded by a severe chill. He died on the morning of the 21st day.

In many cases of intermittent and remittent, as well as typho-

malarial fevers, the patients had epistaxis and pharyngitis. All the cases of typhoid had a diarrhœa, and those of the male patients who had hæmorrhagic discharges from the bowels, died. Petechia was present in all cases of typhoid. From June, 1877, till June, 1878, there were in the male wards 30 cases of intermittent, 11 cases of remittent; 4 cases of typho-malarial; 12 cases of typhoid. Total, 57. Population of male wards about 188.

Two patients died of typhoid, and all the others recovered.

In the female wards, there were about the same number of cases, but a slight increase of deaths. From June, 1878, until August, 1878, there were fifty cases. Six of these were well-marked cases of typhoid, and two of them died. At first it was thought that this endemic of malarial fevers was due to the marsh, which approached to within one mile of the asylum, at the point where the river emptied into the lake, but the continuance of the fever during the winter months, and its rapid development in the spring, naturally led to a microscopic and chemical examination of the water of the lake. From the large quantity of sewage matter that was being daily discharged into the lake from the asylum (and this was impregnated with the fever poison from the excreta of the patients), and the several sewers of the city of Madison, it was not surprising to find organic matter in the water. The sewer from the asylum discharged its contents into the lake about 900 feet from the end of the water pipe.

The water examined with the microscope was drawn from the tanks at 6½ a. m., and after the water cocks had been open half an hour. It was pumped into the tanks at 5 a. m. The following, infusoria, animalcules, protozoa, rhizopods, rotifers, vibriones, and many microscopic forms of vegetable life, together with organic matter, were found in great abundance.

Animalcules. — Tricoda Lynceus, 4; Vorticella Nebulefera, 5; Zoospores, 2. Protozoa.—Actinophrys Sal, 8; Amœba, 15; Rhizopoda.—Cucella Acuminata, 10. Entomostraca.—Daphnia Pulex, 13. Rotifera.—Rotifera Vulgaris, 16. Vibriones.—Vibriones, 14; Oscillaria Lawes, 7. Tubular prolongation of pigment cells, 21.

Microscopic Forms of Vegetable Life.

Desmidiacea.—Pediastrum Granulatum, 1; Fungi, 12; Puccianii Grammi, 18. Diatomacea.—Surrilla Constricta, 6; Surrilla Striatula, 11;

Mastoglia Smithii, 9; Cocconema Lanceolatum, 3. Organic matter, 20. Decaying vegetable matter, 17. Volvex Globiator, 19.

Infusoria or infusory animalcules are found almost universally in infusions of organic matter.

Vegetable matter, portions of woody fiber, small bits of roots and parenchyma were found. Some of the vegetable tissue was more or less decomposed, and dark, opaque, structureless masses were seen. Sewage matters, having a darkish brown or reddish color, and very frequently seen in globular masses, and thus distinguishable from the flattened vegetable matter were found in considerable quantity. Nitric acid applied to the sediment ncreased the redness of the deposit of organic matter. This is Hassel's test for organic matter, who first recognized these little ocherous masses, and thought them to be muscular fiber tinged with bile.

Vibriones or microzyomes are the terms applied to small points or jointed rods, which frequently move with great rapidity, and then become quiet or motionless. Some make a distinction between them, while others consider the terms as synonymous.

Their presence indicates the existence of an organic, carbonaceous substance, a nitrogenous substance and a phosphate. Bacteria is a term also applied to the above. This latter may originally exist in the water or be introduced. Burden-Sanderson claims that they cannot be introduced from the air, and that they are sometimes so small as not to be detected by the highest microscopic powers, or by the test of Tyndall with the electric beam. While it has not been conclusively shown that bacteria or vibriones are in themselves hurtful (although some observers think they are), yet their presence indicate the co-existence of certain organic substances and putrefaction, and the latter is always dangerous.

Rhizopoda and amœba may indicate, like bacteria, the existence of putrefying substances.

The mere presence of diatoms should not condemn water as being impure on account of their presence. Entomostraca (water flea) are quite abundant in the spring, and being found in so many waters, are not regarded as dangerous.

The rotifera (wheel animalcules) are frequently found, and

although not considered as dangerous, yet their existence indicates an impurity of the water. The great number of microscopic objects found in water have led observers to look first for mineral substances, and ascertain by chemical tests their origin and quantity; then to examine the water, by aid of the microscope, for bacteria, fungi, amœba and ova, and small worms and leeches. These latter indicate an impurity of the water, which makes it dangerous for drinking or culinary purposes.

The various forms or kinds of infusoria, diatoms and algæ are important in connection with microscopic evidence of decaying vegetable matters, and with chemical tests showing much dissolved organic impurity in water.

ARTICLE III.

A CASE OF HYDROPHOBIA, WITH A BRIEF GENERAL REVIEW OF THE DISEASE.

By N. SENN, M.D., Member of the Committee on Surgery. Read before the Rock River Med. Society, May 21st, 1879.

On April 10th, I was called to see Mr. P. S., residing in this city. He was 30 years of age, Norwegian, and a sailor by occupation. He was a man of temperate habits, and with the exception of occasional attacks of indigestion, had always enjoyed good health. On my arrival at the house, I found the patient sitting in bed and elicited the following history: He had felt well and continued to work until the evening previous, when he felt a vague pain through his left ear, with a general feeling of malaise, and began to experience considerable difficulty in swallowing fluids. He had spent a sleepless night, the difficulty in swallowing increasing rapidly. He was very excitable and answered my questions hurriedly. Besides difficulty in swallowing, he complained of a sense of tension in the upper part of the nasal fossa. Pulse 96, full but soft; temp. 38.4°; pupils normal in size, responded promptly to light. I handed him a glass of water, the sight of which appeared to excite severe spasms of the laryngeal muscles and tremors of the extremities. An attempt

to drink increased the paroxysms, and had to be abandoned after repeated fruitless efforts. Mistrusting the character of the disease, I cautiously inquired to ascertain the possibility of infection by a rabid animal, and ascertained that a dog belonging to the family had sickened and died seven weeks before; that a neighbor's dog was now suffering in a similar manner, and that the patient had administered remedies to the sick dogs at different times, not being aware of the nature of their disease. The continued gagging and efforts at swallowing on the part of the brutes led the people and the veterinary surgeon to believe that a bone had lodged in the throat. At a subsequent visit, I learned that the first dog, when he had been sick for two days, licked a small abrasion on the patient's left ear.

Although I had never seen a case of hydrophobia, from the history of the case and the characteristic symptoms, I was firmly convinced that the patient was suffering from this terrible malady, and informed his friends accordingly, cautioning them at the same time in regard to the danger of infection. As light, noise and currents of air appeared to exaggerate the symptoms, I directed the patient to be kept quiet in a darkened room, with a limited number of attendants; I prescribed opium in liberal and frequent doses to produce rest, and small pieces of ice to allay thirst.

April 11, 8 a. m.—Found the patient in a state of uncontrollable restlessness; he had slept none during the night; the attendants were unable to keep him in bed; he would walk and jump from one room into another in a fearful state of excitation. He was rational, but despondent, talking freely of the impending fatal result. His eyes were staring and suffused; pharyngeal and nasal mucous membrane congested, temperature 39°, pulse 100. Although the nature of the disease had been withheld from the patient, he appeared to be cognizant of it, and repeatedly assured those around him that they need not be afraid of him as he would not hurt them. As the sight of fluid invariably increased the spasm, I directed that the fluids should be placed in a cup and taken through a rubber tube; this device seemed to render deglutition more easy. Attempting to drink, the patient would jump forward, stand firmly on the floor, hold his head to one side and convulsively grasp the cup and tube,

then make a desperate attempt to swallow which would generally fail, the next two or three efforts were more successful. Solid food was masticated and swallowed readily. Sometimes the fluids that had apparently been swallowed would be forcibly ejected before reaching the stomach. I now directed the following powder to be taken every two hours:

Camphora.....	133
Morphia sulphas.....	02

with a liberal allowance of brandy (alcoholic stimulants were swallowed more readily than water).

Several physicians were called in consultation during the day, most of them corroborated the diagnosis and endorsed the treatment.

12 m.—The symptoms were greatly aggravated, the expression of the face indicated an indescribable distress; there was hyperæsthesia of all the senses, the least touch, a current of air, noise, a bright light or any slight disturbance of the patient was sufficient to cause terrible convulsions. The patient never remained in any one place or position longer than a few minutes, and talked in an excited manner, alluding frequently to the intensity of his sufferings. A copious secretion of viscid mucus from the pharynx and mouth was the cause of constant hawking and spitting. It was only by the most powerful efforts of the will that he was able to swallow small quantities of fluid. Spasmodic contractions of the muscles of respiration occasioned a feeling of suffocation, and of pain in the epigastrium.

9 p. m.—Although the medicines have been administered regularly, they have secured no rest. The patient is in a state of constant agitation. Countenance is livid, extremities cold, skin covered with a clammy cold perspiration, pulse 160 and almost imperceptible, delirious, deglutition almost impossible. The patient continued in a state of restlessness, being tormented with almost uninterrupted spasmodic contractions of different parts of the body until midnight, when death, seemingly from exhaustion, came to his relief. Six hours after death I examined the corpse. The whole surface presented a dark blue appearance, rigor mortis was well marked. The abrasion on the left ear, through which infection had undoubtedly taken place, had healed without a scar

and the ear presented no other abnormal appearance. This case, the first I had ever seen, and, I believe, the first ever observed in this city, led me to look up the literature of this rare disease, for a report at this meeting.

Hydrophobia, rabies canina, or, as it is sometimes called, lyssa, is a disease peculiar to the canine species of animals — as the dog, wolf, fox, hyena and jackal — in whom it may originate spontaneously, while in other animals and man it only occurs by means of the transmission and inoculation of a specific virus.

It is an acute, infectious disease, characterized by a functional disturbance of the nervous system, unattended by any appreciable constant anatomical lesions.

The disease was known to the ancients, and we find frequent allusions to it in the writings of poets and historians, as well as in medical works. Aristotle refers to it in his great work, "Historia Animalium." Galen declared it to be the worst of all diseases. Plutarch regarded it as a new disease, which took its origin during the time of the Asklepiades. Coelius Aurelianus, a contemporary of Augustus, wrote the first book on this disease. It has been described by Celsus, Dioscorides, Plinius, Soranus, Paul of Ægina, Aracteus Cappadocius, Ætius, Rhazes and Serapius. Among the later investigators to whom we are indebted for a more accurate knowledge of this disease, we may mention prominently Maynell and Youatt.

In the human subject the disease never originates *de novo*, but is always the result of inoculation with a specific poison. Infection, in the majority of cases, is due to a bite of a rabid animal, usually a dog, although it may take place by absorption of the virus, when brought in contact with an abraded surface, as was the case in the above instance. Large wounds, as a rule, are less dangerous than small ones, from the fact that in the former the virus is more likely to be washed out by the flow of blood. The specific infecting principle of hydrophobia is contained in the saliva and foam of the infected animal; also in the blood and salivary glands, and perhaps in other tissues of the body. Of its physical properties we are at present ignorant. The virus is reproduced in the infected system, and is distinguished from other poisons by the fact that it remains latent in the organism for

weeks or months, without producing any morbid symptoms. The probabilities of contracting the disease after being bitten by an animal known to be rabid, are about equal to those of infection from other causes. According to the statistics of Tardieu and others, about 47 per cent. of those bitten die of hydrophobia. If we include bites of dogs suspected of being rabid, the proportion is even more favorable, only 8 per cent. terminating fatally. It is very doubtful if any reliable cases are on record in which human beings suffering with the disease have communicated it to others by their bite; the possibility of infection however, cannot be denied. It has been asserted by some that the disease is simply a nervous affection, induced by anxiety and apprehension of the dreadful disease, and consequently that it is not produced by a distinct virus. This is contradicted by the fact that the disease has been observed in children two years of age, whose imagination cannot be wrought on by a fear of the disease. One of the physicians who visited my case, sought to explain the symptoms on these grounds, but the patient was not aware of the character of the disease affecting the dogs until the symptoms had fully developed in himself. The frequency of hydrophobia in man depends on the degree of prevalence among animals. In France, in six years, from 1853 to 1858 inclusive, there were 107 cases in a population of 36,000,000, or one annually for every 2,000,000. In the city of New York, during six years, from 1866 to 1871 inclusive, with a population of 1,000,000, there were 22 cases, or an average of $3\frac{2}{3}$ per annum. In Prussia there occur annually, on an average, 71 deaths from rabies. In Austria, on an average, 58 deaths take place annually from the same cause.

Period of Incubation. — By the period of incubation, we understand the period of time which elapses from the time the virus is brought in contact with a wounded or abraded surface until the first symptoms of disease manifest themselves. It is the time during which the poison remains latent in the system or at the point of introduction. It varies greatly in different cases. According to Boudin, in 147 cases it lasted:

1 month in 26 cases.
1 to 3 months " 96 "

3 to 6 months in 19 cases.
6 to 12 " " 9 "

In the majority of cases it terminates at the end of the second month. The variation in the length of time the poison remains dormant, has not as yet been sufficiently explained. The popular opinion, shared to a certain extent by some of the older writers, that the disease may manifest itself even after several years from the time the poison was introduced, is fallacious, and has given rise to a great deal of unnecessary mental anxiety. If no symptoms manifest themselves after a lapse of six months from the time supposed inoculation took place, the person may be pronounced practically safe. During this stage there are no symptoms indicating that so appalling a malady is in process of development. The wound heals kindly, even after the application of caustics.

Symptoms.—When the disease begins to manifest itself, the cicatrix often becomes swollen and reddened, and sensations of prickling, boring or tearing pains are experienced in the wounded parts or in adjacent tissues. In my case the patient complained of pain in the ear and the same side of the face several hours before any other symptoms had shown themselves. The characteristic signs of the disease come in rapid succession. The patient complains of languor, and a feeling of stiffness about the neck, extending to the jaw and base of the tongue. He is affected with great restlessness, and an indescribable anxiety. Thirst is extreme, but, owing to the distress occasioned by an attempt to swallow fluids, there is an aversion to liquids. Solid food is generally swallowed without much difficulty. The mouth at first is dry, and the salivary secretion diminished. In some cases vomiting is an early symptom; the bowels are generally constipated and the urine scanty. The special senses are morbidly sensitive; light, sound and other external impressions produce an exaggeration of symptoms. Sexual desire, more particularly in the male sex, is increased during the early accessions of the disease. At the onset the pulse is somewhat increased in frequency, and the temperature higher than normal. The patient is inclined to talk almost constantly, frequently changing the subject of conversation. The nervous excitation increases rapidly in severity,

until convulsions of a paroxysmal character occur; these are usually preceded by spasmodic constrictions of the pharynx. Instead of a dryness in the mouth, a copious viscid secretion now distresses the patient, who, on account of difficulty in swallowing it, ejects it forcibly in every direction. Although mental illusions and hallucinations occur during the convulsive attacks, during the intervals the mental faculties are for the most part retained. The continued convulsive movements, the loss of sleep, and the inability to take nourishment, rapidly exhaust the strength of the patient. The pulse becomes more rapid, the extremities cold, the skin livid, the eyes suffused, the convulsions follow at shorter intervals, although perhaps less in severity, a cold, clammy perspiration makes its appearance, symptoms of exhaustion become more and more apparent until death closes the scene.

Diagnosis.—The only diseases which might be mistaken for hydrophobia are hysteria and tetanus. The use of the thermometer will exclude hysteria with certainty, as the temperature in this disease when uncomplicated, is normal, and in hydrophobia is always increased. Tetanus in many respects resembles hydrophobia. In both diseases the reflex function of the spinal cord is increased; both prove ordinarily fatal in a few days; both present violent paroxysmal convulsions, increased and excited by external irritating influences. In the essential features they are, however dissimilar. In tetanus deglutition may be difficult, in hydrophobia it is next to impossible. In the former, respiration may be more difficult; in the latter the spasms of the respiratory muscles are almost as conspicuous as the spasms of deglutition. In hydrophobia a viscid mucus accumulates in the mouth provoking frequent spitting; constant thirst is a distressing feature; the patient is more irritable and restless; there is tremor of the muscles and the spasms are more often clonic instead of tonic. If, in addition to all this, we are able to ascertain the infliction of a bite from a rabid animal, a few weeks or months previous to the attack, the diagnosis remains no longer doubtful.

Prognosis.—According to our best informed and most reliable authorities, the disease proves fatal without exception. Death takes place usually on the second or third day. The patient may die

in the midst of a paroxysm from apoplexy or asphyxia, but most frequently it takes place from exhaustion after a state of collapse. It is true cases have been reported where it has been claimed that recovery occurred, but the possibility of an error in diagnosis in these cases must always be taken into consideration. Faber collected the histories of 19 cases where recovery is said to have taken place. One case is reported by Hanauld, as cured by means of the cold douche continued until syncope was produced. Ottman and Falkner each report a case treated by mercurial inunction. Sauter reports two cases which yielded to the administration of belladonna, and Dr. Watson claims for the hypodermic injection of woorara the same beneficial results. As regards the prognosis of bites by rabid animals, this is influenced by the locality of the wound, and the kind of animal inflicting it. A bite of a rabid wolf or fox is more dangerous than that of a dog. According to Baulley, of wounds of the face, 90 per cent. proved fatal; of the lower extremities, 28 per cent., and of the upper extremities, 20 per cent. When immediate cauterization is practiced, 33 per cent. of those bitten by rabid animals die of rabies, while in cases where no such precaution is practiced, 83 per cent. prove fatal.

Pathological Anatomy.—Early and well marked rigor mortis takes place after death. The blood is fluid and dark, its coagulability being greatly diminished. Although the symptoms during life point directly to the nervous centers, and more particularly to the spinal cord as the seat of lesion, no distinct and constant pathological changes have been observed.

Pathology.—The disease undoubtedly depends upon the introduction into the circulation of a specific poison, which is reproduced in the body. As yet the location of the poison during the period of incubation has not been determined. The greater number of observers believe that it remains latent in the cicatrix until active symptoms begin to develop themselves, while some are of the opinion that it is immediately introduced into the circulation, and after it has reproduced itself to a certain extent it produces the characteristic symptoms. I am inclined to adopt the latter theory as correct. If the former were correct, the poison might remain innocuous in the cicatrix for an indefinite

period of time. The one way to explain the variable length of the period of incubation, is to assume that the reproduction of the poison is not carried on with the same rapidity in different individuals. The same discrepancy in this respect is observed in some of the other infectious diseases. The poison, when fully developed, seems to expend all its force in disturbing the reflex functions of the cord.

Treatment.—This divides itself into the prophylactic, palliative and curative. The prophylactic treatment consists in removing or destroying the virus in the wound. For this purpose the practice of Cornelius Celsus has been little, if any, improved upon. He says: "The virus should be withdrawn by means of a dry cupping-glass, and the actual cautery applied to the wound; if this be impossible, then other caustic agents should be applied and the parts should be bled." The bleeding of the wound should be encouraged. Besides the actual cautery, various chemical substances have been used at different times, as caustic potassa, nitrate of silver, antimony, ammonia, mineral acids, for the purpose of destroying the poison in the wound. Cauterization has also been practiced after the wound had completely healed, and, according to Harder, Hicks and Griesly, has been found of benefit even after the disease had made its appearance. Virchow recommends Vienna paste as the most reliable caustic. Excision of the wound has not been found more effective than cauterization, and as it is more difficult to perform, it should not be resorted to as a rule. If the punctured wounds are deep, it may be necessary to enlarge them to facilitate the application of the caustic. No internal remedies have been found of avail to neutralize the poison during the period of incubation, and thereby preventing the development of the disease. Of the innumerable popular and secret remedies, none have answered this expectation. After the disease has become fully established, our efforts must be directed mainly towards palliation. The present state of medical science has no claim to a curative remedy. Venesection, transfusion, intra-venous injection of warm water, mercurials, belladonna, arsenic, hydrocyanic and carbolic acids, the subcutaneous injection of woorara, atropia and quinine have all been tried for this purpose, but in vain. As

palliatives to allay spasm, relieve pain and procure rest, opium, chloroform and chloral may be used either separately or in combination. When the chemist or microscopist has isolated the specific poisonous principle, then the therapeutist will go to work intelligently and find some agent that will destroy it or neutralize its effects, and thus eradicate from our death-list the most appalling and fatal of all diseases.

LITERATURE.

Billroth's Surgical Pathology.
Flint's Practice of Medicine.
Reynold's System of Medicine.
Ziemssen's Cyclopædia of Practice of Medicine.
Emmert's Chirurgie.
Walther's System der Chirurgie.
Billroths & Pitha's Allg. u Specielle Chirurgie.
Gross' System of Surgery.
American Journal Med. Sciences (Dr. Watson).
Erichsen's Surgery.

ARTICLE IV.

THE PROCESS OF INFLAMMATION.

By KATE C. BUSHNELL, M.D., Chicago.

The phenomena of inflammation are most commonly studied by means of the microscope, in the tongue or mesentery of the frog, after injury by artificial means. They present themselves as follows:

The immediate result of the injury — if not too severe — is a spasmodic contraction of the blood-vessels. This is followed directly by a well-marked dilatation. The primary contraction may be absent, but the dilatation is never absent. It is, therefore, the first characteristic phenomenon observed, and is succeeded by an accumulation of white blood-corpuscles, or leucocytes, in the vicinity of the injury.

We next notice a slowing, then oscillation, and later, complete stasis of the blood current.

At this time the vessels become very irregular in outline and tortuous in direction. There is also a cloudy appearance of the tissues, and the parts are moist from the effusion of plasma about the seat of the injury. This association of phenomena, resulting from irritation, we call inflammation, and its striking physical sign is redness.

Examining the parts more closely, we find the tissues are studded with small, round corpuscles, resembling the leucocytes seen in the vessels.

Indeed, we might, by patient watching, see the leucocytes make their way through the walls of the capillaries into the surrounding structures. This passage of corpuscles through the capillary wall has been appropriately designated diapedesis.

After a time, varying from a few hours to several days, we find that the result of the inflicted injury is either resolution or suppuration.

In the former case, the blood current begins to move again, and the leucocytes are either carried away as leucocytes, or disintegrating, are absorbed and finally excreted from the system as waste matter.

In the case of suppuration, the corpuscles that have accumulated in the tissues surrounding the blood vessels rapidly proliferate and make for themselves a nidus by compressing and destroying adjacent structures.

And here we have an explanation of the swelling and pain that accompany inflammation. The swelling is caused by congestion and the abnormal growth of cells in the part. The pain results from pressure by the abnormal growth upon the nerve fibrils, and also from the disintegration of these fibrils in the general destruction which follows. Now this new growth, suspended in the plasmatic effusion, constitutes pus.

Nature generally forms a protecting membrane, by which this pus is separated from healthy tissue.

The resulting abscess may discharge spontaneously or be opened by artificial means; or the liquor of the pus may be absorbed, and the corpuscles, confined in their membrane, may disintegrate and form a cheesy deposit.

Should the abscess discharge its contents, the process of

inflammation is completed by a growth of new tissues to fill the resulting cavity.

We have described the causes of three of the cardinal symptoms of inflammation: redness, swelling and pain. The cause of the fourth symptom — that of heat — is not so well understood. Owing to the fact that the temperature of an inflammatory focus is frequently higher than that of the blood which supplies it, the intense heat cannot be due simply to the determination of blood to the part, but must be produced locally. Probably it arises from the active change going on at that point.

We will now discuss the obscure points connected with inflammation, and see to what extent we can account for the phenomena observed. But in order to do this intelligently, it will be necessary to turn our attention for a short time to the histology of the structures involved — particularly the smaller blood-vessels. They are derived from the middle embryonic plate. Their inner layer is identical, as to structure, with the serous membranes, being covered with a peculiar cell called endothelium; these cells or plates are polygonal in shape, and united at their circumferences. Between these plates — especially in the smaller arteries and veins — there are minute pores or stomata. They appear as if produced by a failure on the part of the endothelial plates to fit closely into each other.

The capillaries are entirely made up of this single layer, and are destitute of muscular fibers. During circulation, their caliber is regulated, to a considerable extent at least, by the amount of blood in the arterioles.

Around the capillaries, and also around the smaller arteries and veins, perivascular spaces have been recently demonstrated. They form small channels, which seem to be the beginning of the lymphatics. The caliber of these plasmatic channels is not large enough to admit the blood or lymph corpuscles. Besides this system, I believe there exists another set of channels, leading from the capillaries to the nuclei of all surrounding tissues.

The middle coat of the arteries and veins is a transverse muscular layer. Replaced by elastic tissue in the arteries of largest diameter, it is gradually developed as we approach the arterioles; it then diminishes again, and in the smallest arterioles

traces of it only can be found, as single, nucleated, spindle-shaped fibers wrapped around the endothelial layer. This muscular layer is entirely wanting in the capillary system; but as these vessels emerge into venules, it again appears, and is found highly developed throughout the venous system.

The blood-vessels are supplied by the vaso-motor portion of the sympathetic system. These fibers, which pass to the vessels, are non-medullated, and ganglia in connection with them are found in the muscular walls of the arteries and veins. These ganglia hold no unimportant place in the mechanism of circulation.

The distribution of the nerve-fibers is as follows: A nerve approaches a vein or artery, and divides into two branches, one of which crosses the vessel, and then the two accompany it on either side. These branches give off fibers which unite to form a plexus about the vessel, and from this plexus is given off another set of finer fibrillæ, which terminate in the vascular wall itself.

These nerves are both sensory and motor, and various functions have been abscribed to them.

We are quite sure of one function, at least: that is, the maintenance of vascular tonus. This condition is brought about in the following manner: the continual flow of blood through a vessel produces an impression which is conveyed to the neighboring ganglia by sensory fibers; thence it is reflected along motor nerves, causing a rigid condition of the walls of the vessel.

Applying our knowledge of the distribution and function of the nerves of the blood vessels, we can readily see how in the early stages of inflammation, interference by irritation might cause, in the first place, spasmodic contraction of the vessels followed by loss of vascular tonus resulting in dilatation or, at least, a flaccid condition of the vessels.

But we have stated that the early symptoms of inflammation are dilatation with acceleration of blood current. While the natural tendency of dilatation would be a slowing of the blood current. So that we must find a better cause than simple dilatation.

This dilatation and acceleration has been accounted for by the theory of collateral circulation. When some of the arterioles of

a part are occluded or obliterated by injury, there will be an increase in pressure and blood-flow in the neighboring patent vessels. Doubtless such is the case when the injury is so great as to mangle or destroy the tissues, but very frequently in inflammation no such condition of things obtains. So that this explanation will not cover the whole case.

Goetz, Freusberg and others have been recently trying to demonstrate the existence of so-called vaso-dilator nerves. Should nerves of such function be proven to exist, the explanation will seem quite simple, for active dilatation of arteries would be quite liable to result in just the phenomena under discussion.

There is another very excellent theory advanced to explain these symptoms of active congestion. It is the theory of peristaltic action of the vessels, especially under irritation.

This kind of movement has been proven to exist in the blood vessels of some of the lower animals, and assists essentially in the propulsion of the blood. It has also been observed in the lymphatic of man.

If we adopt this theory, the whole process can be accounted for without difficulty.

First, the irritation from injury excites the arterioles to active peristaltic action, propelling the blood more rapidly through the vessels, and the disturbance in the vascular tonus allows the vessels to become greatly distended. At the same time, the plasmatic channels which connect the blood and lymph vessels dilate also, and there is a rush of the blood stream through the arterioles into the capillaries, widely dilating them, and thence the serum, particularly, passes through the stomata into the perivascular spaces and adjacent tissues, leaving the leucocytes collected in abundance in the vessels. There are other causes for the determination of leucocytes to these parts. In the normal circulation it can be readily observed that the leucocytes move slowly along, clinging to the wall of the vessels, and after injury this tendency is exaggerated, either by structural changes in the walls of the vessels, the corpuscles themselves, or perhaps both, so that they are easily hindered in their course. Beale states that the nuclei of the endothelial plates, under the abnormal stimulation, grow to such an extent as to project into the vascular tube and obstruct

the leucocytes. The leucocytes thus block up the way, and the vessels become more and more distended and tortuous in direction.

The spasmodic peristaltic action soon becomes inefficient on account of the great mass of leucocytes clogging the vessels, and it is here that we recognize the to and fro movement of the current, until finally the effort is given up through exhaustion on the part of the nerves, and the blood ceases to move. After awhile the nerves may regain their vigor, and all at once the blood stream starts forward. It stops again, and this phenomenon is repeated several times. The circulation is again established, the leucocytes are gradually carried away, and the process ends in resolution. However, quite frequently the process is carried to a greater extreme.

At the time that exudation of plasma, and oscillation and stasis, are going on, very interesting changes may be observed in the conduct of leucocytes that will indicate that the injury is to result in suppuration. Arrested in their flow through the vessels, the leucocytes find time to take on new characteristics.

They multiply and exhibit the peculiar amœboid movements, and as the blood serum escapes through the widely dilated stomata into the plasmatic channels and surrounding tissues, the leucocytes also escape and are seen to crawl away from the vessel by amœboid movement. They are either crowded through by the impulse of the corpuscles of the passing blood stream, are carried through in the current of the escaping serum, or creep through by virtue of their own power of movement.

It is very evident that there is a mechanical cause for the exudation of serum during inflammation. But the effusion is said also to result from over-excitation of the trophic nerves. How these nerves act is still a mystery. But it is not a disputed question that certain nerves, cerebro-spinal in origin, when irritated, cause derangements in the amount of nutritive fluid supplied to a part. We have familiar illustrations of these disturbances in herpes at one extreme and decubitus or bed sores at the other.

The leucocytes, once escaped into the tissues and bathed in plasma, rapidly multiply, and we have pus as the result.

Do all pus corpuscles come from escaped leucocytes? Cohnheim thought they did; while Virchow contended that they were produced entirely from connective tissue corpuscles.

It is generally believed that they arise from a variety of sources, *i. e.*:

1. They are the leucocytes themselves and their progeny.
2. They are from the nuclei of the endothelial plates of the capillary vessels.
3. Lymph corpuscles also produce them.
4. Beale contends that there are minute particles of germinal matter in the serum of the blood, that grow to form them.
5. They are from the connective tissue corpuscles; and
6. The nuclei of all surrounding tissues, bone, muscle, etc., except perhaps nerve nuclei, give rise to them.

We have described the plasmatic channels that lead from the capillaries to the nuclei of all surrounding tissues. We can easily see how favorable this arrangement is to the production of pus from these sources, when nutritive fluid is carried to them so directly, and, during inflammation, in such abundance.

ARTICLE V.

COMPOSITION AND THERAPEUTICAL USES OF TRUE JAMES' POWDER. By P. O'CONNELL, M.D.

Reference is here had only to the genuine James' powder (*Pulvis Jacobi Verus*), and not to the common substitute, if not worthless compound, which usually goes by that name; I mean the *pulvis antimonialis* or compound powder of antimony of the pharmacopœias.

A great deal of discrepancy exists among the highest authorities with regard to the composition and mode of preparing James' powder. I regret that many attempts on my part to arrive at a correct knowledge of the chemistry of this valuable medicine have not, so far, been as successful as I would wish. Standard works on therapeutics and pharmacy say but little about it. Private correspondence with distinguished chemists and pharma-

ceutists has not been very successful in removing the veil of secrecy which seems to cling round this article. Beyond saying that it is an antimonial, I know but little that is certain with regard to its composition.

Dr. James, who died in 1776, and after whom the article is named, was the first to prepare this nostrum. The American Dispensatory, edition of 1871, says: "It is prepared by calcining, in an iron crucible, one part of tersulphuret of antimony and two parts of horn shavings, stirring constantly until vapor ceases to rise. Then rub the residue to powder, put it in a crucible with a perforated cover and raise it gradually to red heat, which must be maintained for two hours. Reduce the product, when cold, to fine powder. It forms a white, gritty, odorless, tasteless powder, partially soluble in boiling water, and which solution gives an orange-yellow precipitate with sulphuretted hydrogen. It possesses the general properties of the antimonials, according to the doses in which it is employed, and like them is very uncertain in its operation. It is principally used as a sedative and diaphoretic in febrile diseases, in from one to four grain doses, in powder, every three or four hours." The genuine article is not so definitely known as this; while, so far as my experience of its use has gone (and it has not been small) I find it most reliable in its action. Its tastelessness, too, is a very strong recommendation in its favor, since it can be administered to children however young, when quinine, owing to its bitterness, is obstinately and absolutely refused.

The American reprint of Cooley's Cyclopedia of Practical Receipts, fifth edition, edited by Richard V. Tuson, F.C.S., London, says: "The antimonial powder, or compound powder of antimony of the pharmacopœias, is the preparation which usually passes under this name; but the true James' Powder is a nostrum the pretended secret of the preparation of which is claimed to be possessed by only two parties in the Kingdom. The patent specification of the once celebrated Dr. James runs as follows: 'Take of antimony, calcine it with a continued protracted heat, in a flat, unglazed earthen vessel, adding from time to time a sufficient quantity of any animal oil and salt well dephlegmated; then boil it in melted nitre for a considerable time, and separate

the powder from the nitre by dissolving it in water.' It has been remarked that this yields a product totally different from that which Dr. James and his successors have sold under the name. Hence he has been charged with concealing the true formula for his powder, and of publishing a false one in its stead."

According to Dr. Robinson, the original formula for this nostrum, and that still adopted by the vendors of the proprietary article at the present day, is: Tartarized antimony 1 part; prepared burnt hartshorn and calx of antimony, of each 5 parts; carefully mixed together and divided into 21 grain powders. (*Phil. Journ. Pharm.*, vi, 282). Never having witnessed the slightest depression nor nausea, in young or old subjects, follow its use, I do not think the preparation contains any tartar emetic. "Antimonial powder differs from true James' Powder, in which I have found a protoxide of antimony, to which it owes its efficacy, whilst the antimonial powder contains antimonious acid which is inert."—Thompson's London Dispensatory.

Mr. A. W. Gerrard, F.C.S., Teacher of Pharmacy, University College, London, informs me by letter under date Nov. 7, 1878, that James' powder "consists essentially of a mixture of phosphate of lime, antimonious acid, and oxide of antimony."

"From analyses recently made of these specimens of James' powder (Newberry's, Butler's, and a sample 60 years old obtained by Mr. Squire), it appears that antimonious acid was present in varying proportions, from about 45 per cent. to 33 per cent., the amount being greatest in the old specimen; teroxide of antimony was also present to the extent of from 9 per cent. to 1 per cent., the greatest quantity being again in the old preparation; the remainder in each specimen consisted chiefly of phosphate of lime; no trace of tartaric acid was discoverable in any of the specimens."

No two authorities, we see, are agreed as to the composition of this medicine. It contains, according to most writers, protoxide of antimony and antimonious acid. The analyses are, doubtless, correct and therefore to be relied on. The various ingredients, then, found in true James' Powder, with their action and doses, may be summarized thus:

1. Oxide, protoxide, or teroxide of antimony, which is a

grayish-white powder, is used chiefly in preparing tartar emetic and in making *pulvis antimonialis*, of which it constitutes one part in three. It is diaphoretic and febrifuge. The dose is from one to ten grains. It is very unreliable, being sometimes very active and sometimes inert, owing doubtless to differences in the manner of its preparation. It is said to be very mild when well prepared, and deserves, perhaps, to be more used. It is obsolescent.

2. Antimonious acid (synon. antimonic tetroxide). Some believe it is inert; this may fairly be doubted. It constituted about one-half to one-third of the three specimens analyzed by Mr. Squire. To it chiefly, probably, is due the remarkable efficacy of the drug.

3. Calx of antimony. This is a white or grayish-white powder, tasteless and inodorous. It is greatly diaphoretic and laxative. The dose is from one to ten grains. It is not now employed.

4. Phosphate of lime. It is used by some on the supposition that it increases the growth of bone. Believing that it hastens and stimulates the growth of cellus, the French use it largely to promote the union of fractures. Dose from twenty to sixty grains, three times a day.

To what particular ingredient or ingredients this preparation owes its efficacy, I cannot positively say; but I do know that, in my hands, it has proved a most useful as well as reliable medicine. "James' powder is used in both acute and intermittent fevers, and in all febrile and inflammatory diseases. It is more mild and more uniform in action than the antimonial powder of the pharmacopœia. Perhaps no nostrum ever received such extensive patronage from the faculty as James' powder. Dr. James himself was remarkably successful in its use; but whether his success depended upon his powder or on the mercurials and bark which he commonly employed at the same time, is still undetermined."

With the view of determining, if possible, this point, I made comparative trials of James' powder alone, and with the drug in combination with quinine, calomel, and sometimes with opium. Of twenty-two cases of grave sickness, of which I preserved notes, in which the James' powder alone, or combined with the

above named drugs, was used, the following is a very brief summary:

Four cases were intermittent quotidian fever in young children; two were puerperal pyrexia; one was pyrexia, following profuse—almost fatal—post-partum hæmorrhage, on the eleventh day after delivery; three were puerperal peritonitis (two acute and one sub-acute of three weeks duration); two were acute puerperal metritis; one was acute peritonitis in a woman the subject of menorrhagia; one was acute metritis and pelvic cellulitis, with effusion; and eight were cases of acute pneumonia, all lobar, some double and some of the entire lung. All made rapid and complete recoveries, with the single exception of one of the cases of acute puerperal peritonitis, when the patient after the subsidence of the peritonitis sank from exhaustion due to pelvic effusion.

In two, of the twenty-two cases, James' powder, calomel and opium combined were used; *in one case*, James' powder, quinine and opium combined were used; *in three cases*, James' powder and quinine combined were employed; *in three cases*, James' powder and opium combined were used; and *in thirteen cases*, the James' powder alone was administered. The thirteen cases in which the James' powder alone was employed, included two cases of intermittent fever, one of puerperal pyrexia, the case of pyrexia following the post-partum hæmorrhage, one of acute metritis and pelvic cellulitis with effusion, one of puerperal metritis, and seven cases of pneumonitis. In these thirteen cases the action of the James' powder alone was just as rapid, and the effect as complete and as satisfactory, as when combined with the quinine, calomel or opium.

The temperature was observed in all the cases with the exception of two of the children suffering from the intermittent fever, in whom, owing to fear and restlessness, I could not note the temperature accurately. The twenty cases gave an average temperature of 39.2°. Their average temperature, after an average use of the drug, every four hours, for three days, was 37.2°. The average temperature of the seven cases in which the James' powder was used *in combination* with quinine, calomel and opium, was 39.1°; and the average temperature of the

thirteen cases in which James' powder *alone* was prescribed, was 39.2°. The average temperature, after an average use of the drugs for three days, was, in the seven cases, 37.1°, and in the thirteen cases, 37.2°. The average duration of illness—that is, to the beginning of convalescence—was seven and three-fifths days in the whole twenty-two cases. In the thirteen cases in which James' powder alone was employed, the average duration of the disease was six and eleven-thirteenths days; in the other nine cases, the average duration of illness was seven days.

These facts help to determine that it is *not to the mercurials and bark*, but to the *James' powder alone*, the speedy reduction of the temperature, with complete as well as rapid resolution of inflammatory and febrile diseases, is due.

Quinine is now extensively employed as an antipyretic; but to make a decided impression on the temperature, one to two grams, repeated once or twice in twenty-four hours, are necessary. A few such large doses are certain to induce the disagreeable effects of the drug on the brain, and the patient will complain bitterly of the tinnitus aurium and of his vision. Its very bitterness, too, constitutes no small difficulty and drawback in the administration of this invaluable medicine, which, in the case of children, is well-nigh insuperable. The writer, even, cannot take quinine, owing to the nausea and vomiting which its bitterness induces. With James' powder no such difficulties are encountered, and no disagreeable effects follow its use; while such small doses as 20 to 30 Ctg. to adults, every two, three, four or six hours, as may be required, need not be exceeded, and will produce, but more slowly, the same depression of temperature as 1 to 2 grams of quinine once or twice a day. Being tasteless, it can be taken with or without sugar, by young or old, on the most delicate stomach. Its cost, too, is only about half that of quinine at present rates.

It is diaphoretic, antiperiodic and antipyretic. Its diaphoretic action is gentle and moderate. As an antiperiodic, in the intermittents of children, I find it quite as prompt and as effectual as quinine. As an antipyretic, I notice a steady decrease in the temperature and in the pulse rate as soon as its administration is commenced. It does not, any more than quinine, prevent an

increase of temperature when a fresh focus of inflammation is lighted up, such as the implication of a fresh lobe of the lung during the progress of a case of pneumonia. It seems to exercise a specific effect in puerperal inflammations in particular, arresting the morbid action, whether it be a metritis, cellulitis or peritonitis, causing a very speedy and complete *resolution* of the inflammation, with return of the lochia. It appears to exert a very marked beneficial action in pneumonitis also.

CHICAGO, ILLS, July 5, 1879.

CHLORHYDRATE OF PILOCARPINE IN THE PRODUCTION OF PREMATURE LABOR. Dr. Chantreuil. (*La France Médical*, Nos. 28, 30, 33, 34, 1879.

Dr. Chantreuil, at the *Hôpital des Cliniques*, after advocating at length the claims of hydrate of chloral in the treatment of eclampsia and an absolute milk diet as a prophylactic of the same when albuminuria is present, discusses the reliability of pilocarpine in the production of premature labor. Before narrating his own experience, he calls attention to the observations of Massmann, who had twice seen labor produced by the hypodermic injection of pilocarpine, and to the experience of Schauta (assisted by Spaeth) and Kleinwachter, both of whom had witnessed a case of labor brought about by the same agent. The doses employed by these gentlemen varied from 0.07 to 0.053 of the chlorhydrate of pilocarpine. To confront these apparent successes, he adduces the experience of others—in all eight cases—in which much greater doses failed entirely. After narrating the experience of M. Hyervaux and himself on rabbits, dogs and guinea-pigs, and claiming that the success of those who had observed positive results could be explained by other exciting causes, he concludes that it is unwise to rely on pilocarpine to produce premature labor in a case of albuminuria. While admitting that it may assist labor after the dilatation of the os, he himself would exhibit it only with great reluctance on account of its cardiac action.

Clinical Reports.

ARTICLE VI.

MERCY HOSPITAL OBSTETRICAL DEPARTMENT.

Service by DR. ROLER.

Reported by H. M. STARKEY, M.D., House Physician.

Pendent Uterus, Spontaneous Cranioclasm. Septicæmia. Double Phlegmasia Alba Dolens. Recovery.

Julia F., age 22. Irish, domestic, medium size, well formed. Entered hospital Feb. 10, 1879, expecting to be confined in one week. Abdomen is noted as being unusually prominent, which prominence increased rapidly after the time patient expected to be confined.

Labor commenced in the evening of March 1, with very feeble pains. Patient says she has felt no life for nearly a week and thinks that the child is dead, but knows of no reason for this.

March 2, 2 p. m.—Pains are still very feeble. Neither the presenting part nor the os uteri can be touched per vaginam. By external manipulation, the head can be felt high up at the brim of the pelvis on the left side, while the breech is in the lower and dependent part of the abdomen on the right side. The placental bruit can be distinctly heard.

The head was crowded down into the pelvis, and the breech raised. This position of the fœtus was maintained by a binder placed firmly about the abdomen.

7 a. m.—Membranes ruptured and an unusually large amount of fluid escaped. Os about one-third dilated and occiput presenting. Abdomen still greatly distended.

No pains occurred after 10 a. m. during the day, and but one during the night.

March 3, 9 a. m.—Os about one-half dilated. There is an entire absence of labor pains, and we judge that the extreme distension of the uterus produced atony of that organ.

4 p. m.—A few weak pains occurred. The head had now descended to the vulva, and it is found that the child is dead, the head macerated and softened, the right parietal bone overriding the left, and the scalp ruptured. Soon the right parietal bone projected from the vulva and was withdrawn. The brains of the fœtus were removed, and by careful traction for about thirty minutes, the head was delivered. The pains were now entirely absent and a finger was hooked under the arm and considerable traction made in this way. By careful and patient labor in this manner for about forty minutes, the child was removed.

During these manipulations there were frequent discharges of very offensive gas, which passed away at times with such force, when some change in the position of the fœtus allowed an exit as to produce a loud noise similar to flatus escaping from the bowel. A large quantity also of decomposed and very offensive fluid escaped both during the expulsion of the child and after delivery.

The child was considerably decomposed, its abdomen distended with gas, and the umbilical cord nearly destroyed.

The uterus contracted well, expelled the placenta almost immediately, and there was very little hæmorrhage.

The patient's pulse was fairly strong and ninety-five per minute during labor, but soon after delivery her face became blanched and anxious, her respiration hurried and pulse soft, small and 120 per minute. Small and frequently repeated doses of brandy were directed, and quinine Gm. 2-6 every four hours alternately with fr. ferri. chlor. C.C. .5 in C.C. 4 of saturated solution potass. chloras.

Four hours after delivery temperature is 38.1°, pulse 120.

March 4, 8 a. m.—Temperature 38.1°, pulse 132. Complains of no pain. Medicines continued with addition of carbolized injections into the vagina.

March 5.—Temperature 39.5°, pulse 120 and stronger. Feeling a little less prostrated.

March 6.—Little change; temperature and pulse remaining

high. Some tenderness over uterus, but no general abdominal tenderness and no tympanitis, but on the contrary abdominal walls are *very* lax, and can be gathered up in large rolls in the hands and have a pecular rough and leathery feel.

March 7, quinine replaced by

Tr. cinchonæ.....	30	C.C.
Spts. frumenti.....	120	

Mix and give two teaspoonsful every four hours. Bowels obstinately constipated.

March 8.—Pulse, temperature and general appearance some better. Considerable swelling of labia minora, especially on right side. Laxatives and mild purgatives administered.

March 9.—Little change. Pulse ranges near 120 and temperature 39.2°–39.5°. Bowels only moved after repeated cathartics by mouth and by enema had been exhibited.

March 10.—Considerable improvement. This improvement continued steadily day by day till

March 15.—Temperature 38.4°, pulse 90–100. Sat up a few minutes while bed was made. Very little abdominal tenderness remaining. Complains of some soreness in calf of left leg.

March 16.—Endeavored to sit up, but pain and soreness of calf of left leg prevented. Leg is swelling a little.

March 17. Leg more swollen (though still moderately so) and pain very much increased. Marked tenderness along line of femoral vessels and their continuation down to ankle. Lump in left groin about size of walnut, and a tender swelling can be felt just over brim of pelvis. Applying to affected limb cloths saturated with carbolized zinc solution, as follows:

Acid. carbolicum.....		50
Zinci chloridum.....		20
Aqua.....	30	

Mix.

Giving internally tr. ferri chlor C. C. | 5 in saturated solution of potassii chloralis C. C. | 4 every two hours. Temperature, 39°–39.5°.

March 18.—Temperature, 9 a.m., 38.8°. 9 p.m., 38.4°. Leg more swollen and swelling extends to abdomen. Pain very severe at times.

March 19, 9 a.m. Temp. 39°, pulse 120; 9 p.m., temp. 39.1°, pulse 120. Pain less severe, swelling more marked, especially along line of femoral vessels. Internal remedies continued. Locally, carbolized zinc lotion replaced by liniment consisting of

Spts. terebinthina.....		C. C.
Lin. sapon. camph. āā.....	25	
Oleum olivum.....	50	

The leg is assuming the white and puffy appearance characteristic of phlegmasia alba dolens. March 20, 9 a.m. Temp. 38.7°, pulse 110; 9 p.m., temp. 39°, pulse 111. Leg continues to increase in size, but there is much less pain. The point of greatest tenderness is in the popliteal space, where there is a hardened cord a little to the inner side of the center.

March 21, 9 a.m. Temp. 38.1°, pulse 108. The circumferences of the left leg are: (a) Ankle over malleoli .248 M. (b) Ankle just above maleoli, .235 M. (c) Thickest part of calf, .362 M. (d) Knee, center of popliteal space and just below inferior border of patella, .343 M. (e) Centre of popliteal space and center of patella, .381 M. (f) Middle of thigh, .495 M. Dimensions of sound limb at same time are: (a) .242 M, (b) .197 M, (c) .292 M, (d) .317 M, (e) .343 M, (f) .394 M.

March 22, 9 a.m; Temp. 37.65°, pulse 94. Limb almost entirely free from pain and soreness. The ankle is a little more swollen, but the dimensions of other parts of the limb are all less.

March 23, 9 a.m. Temp. 38°, pulse 100. Circumferences of left leg all diminished, and there is very little pain or tenderness. Some soreness remains in the groin, however. Patient complains of shooting pains through center of calf of right leg, and this point is found to be a little tender on pressure, and there is also a little stiffness of right knee; resembling suspiciously the commencement of the disease in the left leg.

March 24, 9 a.m. Temp. 38.5°, pulse 100. Improvement of left leg continues, but right leg shows more distinctly that it, also, is involved in the same disease. Ankle and calf swelling, very tender at calf and in groin, and very painful.

March 25, 9 a.m. Temperature, 38.3°, pulse 100. Left leg

gives very little inconvenience, and dimensions are all the same as were noted two days ago. Right leg less painful, but swelling and tenderness are more marked. Has a milky white appearance, which is particularly noticeable about the ankle. Have for two days used the carbolized zinc solution mentioned before, but this is now changed for the turpentine liniment applied to the other leg.

March 26, 9 a.m. Temp. 38°, pulse 100. Suffers little pain in either leg unless moved, and there is marked decrease in the size of the left leg, except about the ankle, where there is more swelling, as will be seen by the following measurements:

Left—(a) .246 (b) .235 (c) .317 (d) .298 (e) .336 (f) .457

Right—(a) .235 (b) .215 (c) .292 (d) .305 (e) .343 (f) .419

March 27, 9 a.m. Temp. 38.6°, pulse 100. Little change; still using tr. ferri chlor. internally and turpentine liniment locally.

March 28, 9 a.m. Temp. 38.7°, pulse 98. Pain and tenderness of right leg much diminished, but is more swollen. Circumferences are:

Left—(a) .248 (b) .229 (c) .317 (d) .298 (e) .337 (f) .444

Right—(a) .260 (b) .229 (c) .317 (d) .305 (e) .343 (f) .419

March 31, 9 a.m. Temp. 37.1°, pulse 88. Improvement steady, swelling diminishing in all parts except right ankle, which is more swollen.

April 3, 9 a.m. Temp. 37°, pulse 86. Sits up in bed much of the time.

April 4. Fairly convalescent. Bore weight of body on left foot, but was unable to stand on right foot, and on attempting to do so fell on the floor. Circumferences to-day are:

Left—(a) .248 (b) .216 (c) .292 (d) .298 (e) .330 (f)) .419

Right—(a) .266 (b) .235 (c) .311 (d) .305 (e) .343 (f) .425

Left hospital nearly well.

Was seen April 28. Is sitting up all day, but walking is still a little difficult. Feet and ankles swell considerably in the daytime, but much of this disappears during the night. Was advised to wear an elastic bandage from the toes to the thighs.

Resumed work May 1.

ARTICLE VII.

MERCY HOSPITAL.

Reported by Dr. E. C. HELM, House Surgeon.

I. Obstinate Ulcer of Foot.

D. S., aged 34, entered the hospital March 21, 1879, with the following history:

Three years ago his left foot was crushed between two logs. Part of the heel and nearly all of the superficial tissues on the under and inner sides of the foot were torn away, leaving a large rectangular ulcer. This improved rapidly until the ulcer was about .08 m. square.

In spite of all treatment (including skin-grafting by a Canadian surgeon), this refused to heal.

At date of admission the edges of the ulcer were greatly thickened and indurated and the floor non-granulating. There was very little discharge, the ulcer being exceedingly indolent. No bones are known to have been broken — still the foot is flat. He is a very muscular, apparently healthy man, but is a victim of periodical methomania.

The edges of the ulcer were pencilled with tincture of iodine, and the whole covered with simple cerate. The internal treatment was 2 Gms. of sulphur three times a day.

After two weeks (April 2d), the ulcer meantime not improving, the iodine was discontinued, and firm strapping tried.

April 6th–9th.—Upon returning from a debauch, the foot was worse than ever.

April 10th. — Scarified edges and base of ulcer freely.

April 11th–13th. — Applied tincture of cantharides twice daily with camel's hair pencil.

April 14th. — Ether was administered, the edges of the ulcer were pared, the base scraped, several pieces of skin from the posterior surface of the leg were engrafted and the ulcer dressed with simple cerate.

After forty-eight hours, the dressings were carefully removed;

only three grafts remained, and these came away twenty-four hours later.

April 23d. — Scarified and grafted again.

April 25th–27th. — Another debauch. Grafts failed. Sulphur discontinued.

May 5th. — Anæsthetized, scarified parts well, and dissected up three large flaps extending from the edges of the ulcer well into the healthy tissues. These flaps were on the anterior, superior and posterior borders of the ulcer. They were left with broad attached bases, and were not twisted or stitched, as their vitality was not assured; but were dressed with simple cerate and bandaged loosely.

May 8th. — All of the anterior and posterior and part of the superior flaps have sloughed.

May 9th. — Directed potassium iodide 5 Gms. three times a day.

May 12th–16th. — Applied cantharidal blisters twice per day, leaving them on continuously. The blisters caused some pain, discomfort and an increased vascularity of the parts.

May 17th–22d. — Dusted on thickly a coating of capsicum twice per day.

May 22d. — Scarified again and continued the capsicum until June 1, at which time there was more redness, and a better crop of granulations than at any time before. Consequently the house-surgeon engrafted fourteen pieces of skin from the forearm, and dressed lightly, leaving the dressings undisturbed for forty-eight hours, at which time the grafts were all in position.

June 5th. — The grafting failed. The ulcer is healing rapidly where the flaps made May 5th were situated, while the original ulcer has changed but little since entering, except that it is very slowly granulating at the base, while the edges are still indolent.

June 6th. — Becoming discouraged he has left the hospital.

II. Epithelioma.

A. N., aged 55, entered the hospital April 9th, with an epithelioma of lower lip, of two years' duration. He could assign no cause for it other than that he was an inveterate smoker, always using a clay pipe. He had endured some pain of a smart-

ing, rather than a shooting character. Last winter the lip was partially destroyed by caustics which were applied by a "cancer doctor."

April 14th.—Ether was administered and a free incision made, cutting out a quadrilateral piece of the lip, taking away fully three-fourths of its substance. The moderate hæmorrhage was readily controlled by the ligature and torsion. Next incisions .03 m. in extent were made from each lower angle of the quadrangle horizontally outwards. Like incisions were made from each angle of the mouth directly outwards, and thus parallel to the lower incisions. The flaps thus formed were separated from the periosteum, brought carefully into apposition, stitched and firmly strapped. There was considerable oozing for two days.

April 21st.—Removed the sutures.

April 30th.—Discharged cured, the wound having closed by first intention, leaving a good lip.

III. Excision of Elbow Joint.

J. M., aged 26, has had trouble with his elbow-joint for three years. He first felt pain while shaking hands, since which time the pain slowly increased, and in six months thereafter an opening was made, giving exit to what he describes as a "sausage-like material." Through the opening or fistula, which remained patulous, a small amount of pus (but a few drops) was daily discharged. Carious bone was detected. He could use his arm very well until last November, at which time he had great pain, and says he "did not sleep for thirteen nights."

The pain continuing, he came to Chicago, under the care of Prof. R. N. Isham. Finding that an operation was necessary, Prof. Isham, on Feb. 15, excised the joint at the college, using the H flaps, and sawing off the entire articular facets of the bones. There was some hæmorrhage, which was readily controlled by styptics.

The patient was then sent to the hospital, and the arm dressed in a semi-flexed position. There was little swelling or pain. The patient remained in bed but two days.

March 1st.—Union by first intention, except at the points at which injections were made, which remain open.

March 15th. — Patient left the hospital to-day. The fistulæ have not entirely healed. Passive motion has been kept up, but there is very limited motion.

April 21st. — Re-entered. Elbow doing poorly; considerable discharge. Dressed antiseptically. Gave tincture of iron internally. His general health is poor.

May 15th. — The fistulæ have healed; swelling subsiding. There is now considerable motion.

June 11th. — Nearly well. Will leave in a few days. Can flex the forearm to nearly right angles with the arm. Pronation and supination are not entirely lost.

NOTES FROM PRIVATE PRACTICE.

ARTICLE VIII.

A Rare Fracture.

On the night of the 5th of May, ult., Dr. F., of this city, æt. 27, called at my office, informing me that there was "something wrong" with his shoulder. He stated that upon getting out of bed an hour before, he had stumbled and fallen to the floor, striking his shoulder against something, which proved to be the edge of a door standing ajar. The pain was so excessive as to render him unconscious for some little time.

Upon careful examination of the part, I could at the outset detect no objective sign of injury. There was inability to place the hand upon the head, and extreme tenderness on pressure over a limited space just inside the acromial end of the clavicle and just below it. No crepitus or deformity was at this time observable. Accordingly I prescribed a hypnotic (morphiæ acetate 2 Ctgm.), and the application of a towel wrung out of hot water, on general principles. No opinion as to the lesion was expressed.

Next morning I called on the doctor, and at once noticed tumescence, circumscribed, at the injured spot, with considerable impairment of function, corresponding to the action of the pectoralis minor and coraco-brachial muscles. It will be remembered that the former is inserted into this process, and also that

the conjoined tendon of the latter and of the short head of the biceps arise from its outer border. Crepitation was now quite perceptible. This was doubtless more from rupture of the trapezoid ligament than the separation of the fragments of bone. Indeed, when the relation of this ligament and also of the conoid are considered, it seems to me that this fracture implies the *necessary* rupture of both of them.

When we observe that the coracoid process is epiphyseal, and that complete osseous union does not occur till the twenty-fifth year or even later, this case may be viewed more as a separation than a fracture, perhaps. Hamilton, however, considers such separations under the nomenclature of fractures.

The exceeding infrequency of this injury is obvious from a consideration of the anatomical reasons. Nothing but direct violence of a special kind can cause it. I may add, and it is to be hoped, unassumingly, nothing but direct and close observation will detect it. Erichsen says only about a dozen cases of fractured coracoid are recorded. Mr. Lizars denies having seen a well authenticated case. Bransby Cooper and Dr. R. Mussey have each seen one. Hamilton has seen but one.

In conclusion, I would state that I had the honor to present this unique example, a few days after it occurred, before the Rockford Medical Association, and their opinion entirely concurred with my own as to the diagnosis. Hence the confidence with which I venture to assert the diagnosis.

The patient, it may be added, has but little inconvenience at present, no treatment further than elevation of the forearm upon the chest having been employed.

EDWARD C. HUSE, M.D.

ROCKFORD, June 2d, 1879.

THE Third Annual Session of the American Dermatological Association will be held in the rooms of the Academy of Medicine, No. 12 W. 31st Street, New York, on the 26th, 27th and 28th of August, 1879.

Society Reports.

ARTICLE IX.

PROCEEDINGS OF THE CHICAGO GYNÆCOLOGICAL SOCIETY. Eighth Meeting, May 23, 1879.

DR. T. D. FITCH in the chair.

DR. EARLE read a paper on tubercular meningitis (published in July number of JOURNAL AND EXAMINER).

DISCUSSION.

DR. MILLER asked if every case of acute meningitis might not be associated with tubercle. He admitted the great difficulty of diagnosis. It was certain, however, that he had witnessed recoveries in cases of meningitis in which there were evidences of tubercle. In the treatment of these cases the speaker believed in shaving the scalp, applying blisters and stimulating all the excretory channels. It was questionable whether bromides were of service.

DR. MERRIMAN mentioned a case of supposed tubercular meningitis, which recovered. He, too, agreed as to the extreme difficulty of diagnosis. Theoretically, he could not understand why recovery from tubercular meningitis should be so infrequent.

DR. BYFORD objected to the name, tubercular meningitis. He thought usually the meningitis preceded the formation of tubercle. Often, however, those two kinds of cases merged into each other, and the diagnosis is thus made extremely difficult. Death in these cases is caused by compression of the brain. Concerning the treatment, he had seen several cases recover under the effects of ergot and quinine. In answer to Dr. Miller, the speaker said

the conjoined tendon of the latter and of the short head of the biceps arise from its outer border. Crepitation was now quite perceptible. This was doubtless more from rupture of the trapezoid ligament than the separation of the fragments of bone. Indeed, when the relation of this ligament and also of the conoid are considered, it seems to me that this fracture implies the *necessary* rupture of both of them.

When we observe that the coracoid process is epiphyseal, and that complete osseous union does not occur till the twenty-fifth year or even later, this case may be viewed more as a separation than a fracture, perhaps. Hamilton, however, considers such separations under the nomenclature of fractures.

The exceeding infrequency of this injury is obvious from a consideration of the anatomical reasons. Nothing but direct violence of a special kind can cause it. I may add, and it is to be hoped, unassumingly, nothing but direct and close observation will detect it. Erichsen says only about a dozen cases of fractured coracoid are recorded. Mr. Lizars denies having seen a well authenticated case. Bransby Cooper and Dr. R. Mussey have each seen one. Hamilton has seen but one.

In conclusion, I would state that I had the honor to present this unique example, a few days after it occurred, before the Rockford Medical Association, and their opinion entirely concurred with my own as to the diagnosis. Hence the confidence with which I venture to assert the diagnosis.

The patient, it may be added, has but little inconvenience at present, no treatment further than elevation of the forearm upon the chest having been employed.

EDWARD C. HUSE, M.D.

ROCKFORD, June 2d, 1879.

THE Third Annual Session of the American Dermatological Association will be held in the rooms of the Academy of Medicine, No. 12 W. 31st Street, New York, on the 26th, 27th and 28th of August, 1879.

Society Reports.

ARTICLE IX.

PROCEEDINGS OF THE CHICAGO GYNÆCOLOGICAL SOCIETY.
Eighth Meeting, May 23, 1879.

DR. T. D. FITCH in the chair.

DR. EARLE read a paper on tubercular meningitis (published in July number of JOURNAL AND EXAMINER).

DISCUSSION.

DR. MILLER asked if every case of acute meningitis might not be associated with tubercle. He admitted the great difficulty of diagnosis. It was certain, however, that he had witnessed recoveries in cases of meningitis in which there were evidences of tubercle. In the treatment of these cases the speaker believed in shaving the scalp, applying blisters and stimulating all the excretory channels. It was questionable whether bromides were of service.

DR. MERRIMAN mentioned a case of supposed tubercular meningitis, which recovered. He, too, agreed as to the extreme difficulty of diagnosis. Theoretically, he could not understand why recovery from tubercular meningitis should be so infrequent.

DR. BYFORD objected to the name, tubercular meningitis. He thought usually the meningitis preceded the formation of tubercle. Often, however, those two kinds of cases merged into each other, and the diagnosis is thus made extremely difficult. Death in these cases is caused by compression of the brain. Concerning the treatment, he had seen several cases recover under the effects of ergot and quinine. In answer to Dr. Miller, the speaker said

he would not administer full doses of quinine when there were evidences of cerebral congestion of a considerable degree.

DR. NELSON accepted Dr. Byford's views as to the real nature of these cases. He alluded to the necessity of an energetic line of treatment: cold applied to the head, quinine in every case of high temperature, ergot, bromides, and digitalis and belladonna to support the heart's action. He adopted the use of blisters, but on account of the disfigurement, which is shocking to the friends in case of death, he used small blisters, on the nape of the neck, behind the ears, and in other concealed places.

DR. SAWYER alluded to the fact that an unusual number of cases had come under the observation of the essayist. He had been led to regard the affection as a less common one. In both the cases which he had seen, the evidences of tuberculosis of other parts of the body overshadowed at first the cerebral manifestations. In one of the cases there were tubercles in the choroid.

DR. DUDLEY spoke of the theoretical use of alcohol in meningitis.

DR. FITCH remarked that the great, distinguishing feature of tubercular meningitis was its slow progress, and its indefinite character. It seems sub-acute from the outset. He thought the majority of the cases reported in the essay were like those of simple meningitis.

CHICAGO MEDICAL COLLEGE.—The following appointments have been recently made to fill vacancies in the faculty of this college: Edward W. Jenks, M.D., LL.D., formerly of the Detroit Medical College, has been appointed to the chair of Medical and Surgical Diseases of Women and of Clinical Gynæcology, and will soon take up residence in this city. Lester Curtis, A.M., M.D., formerly assistant or adjunct to the Chair of Physiology and Histology, has been appointed Professor of Histology. H. Gradle, M.D., occupies the Chair of Physiology temporarily, as Lecturer in that department.

Foreign Correspondence.

ARTICLE X.

LONDON, May 28, 1879.

After many years of carefully studied experience in the treatment of almost innumerable cases of hip-joint disease, a large portion of the very best and most erudite surgeons of London, look upon a *good* result as the sequence of excision of the head of the femur, as by far the exception and not at all the rule. Some do not perform the operation, depending upon rest in bed, constant extension, good food and correction of deformity by graduated pressure, to give better and more permanent recoveries than any resort to the knife. These men have done the cutting operation time and time again in their earlier experience, but the results faithfully interpreted and honestly acknowledged, deduced from the records of extensive hospital practice, and unfortunately numerous post mortem examinations, have led them to avoid active interference in almost every case; making it absolutely the *dernier ressort* and then accepting the necessity with faint hearts and doubting minds as to the good done.

Now if there is one crop of maladies which is reaped with an abundant harvest in the special hospitals for children and in general hospitals as well, in London, it is acute and chronic joint disease, especially the latter; strumous if you prefer, although I noted well the particular care with which each surgeon sought for and elucidated the probable traumatic cause or incident which may have preceded the commencement of the incipient trouble, ending in the chronic difficulty presented for examination. In every instance preference was given to the traumatism as compared with constitutional taint, although the latter was not denied

a place in the list of causes, nor were its hurtful tendencies overlooked in the matter of predisposition to bad consequences after even very slight injuries. What has been said so far by no means applies to all the surgeons here, nor in any way does it represent the practice adopted in all the hospitals. On the contrary, no joints are left untouched in some. Hip joint disease in these latter means excision, and I am almost justified in saying that the same rule is followed and adopted as the proper treatment in chronic pulpy degeneration of any and all joints in which the operation is at all warrantable. These two courses of procedure are fully represented by the practice of the two largest, wealthiest, most renowned and best patronized hospitals in the city, under the charge of men whose reputations are world-renowned, whose excellence is unsurpassed. It is impossible to explain this belief in opposites, for nothing can be further apart than their plans of treatment, no deductions more widely opposed than are here drawn from the same data, derived from a similar class of cases, by men whose honesty of thought and action impresses the listener, whose knowledge and skill call forth his highest praise, whose charitable sympathy for the sufferer awakens his warmest admiration.

One is impressed with the thought that there must be a middle ground where the greatest safety lies. Perhaps one case witnessed (which is readily recalled) will illustrate the probable existence of this haven of refuge.

A little girl of about eight years of age, had been suffering with all the signs of hip disease for several months, and the stage of suppuration had been reached as evidenced by the sense of fluctuation. She fell into the hands of one who believes and practices excision. The operation was done, and after the separation of the excised head and trochanters, the specimen was immediately sawn through longitudinally by the pathologist who is always present at the operations. The divided bone told the cause of all the trouble at a glance. In the very center of the cancellated tissue of the head lay a sequestrum of dead bone, far removed from any possible chance of exit, and communicating with the "outer world," by the merest thread of a sinus. Nature could have labored for years at its removal and then have fallen

short of the completion of the task, for all around this center of months of suffering and bodily decay, was a thick wall of normal, healthy bone. If ever surgical operation was justifiable, this one was — every stroke of the knife but opened the way to health and recovery. It is impossible to contemplate, what consequences would have followed in the wake of the waiting policy, without a shudder. The operation should be done, must be done, often — it is often done when early death or subsequent months and years of open sinuses and prolonged suppuration, convince one that rest, extension and good nourishment would have wrought better results. The choice must be made whatever be the subsequent history. The results following both methods, as here seen, are truly astonishing. I must admit that of the two, my preference now would be to assign by far the greater number of cases to non-operative treatment.

Through the great courtesy of Mr. Howard Marsh, Assistant Surgeon at St. Bartholomew's, it was my pleasure to visit the Hospital for Hip-joint Disease, under his charge, and superintended by charitable ladies. There were some fifty little patients showing all varieties of the disease in all possible stages, accompanied with every kind of deformity — in some both hip-joints were affected, and had added thereto Pott's disease of the spine. All cases which have been discharged from other hospitals as incurable, are admitted here, and one of their absolute rules is, that no cutting operation whatever shall be done — no operation at all other than aspiration of an abcess, if that may be so classed. Each patient has his or her own little cot — they are placed thereon as soon as admitted, flat upon the back; extension with weight and pulley is immediately applied and kept constantly in action. The direction of the extension always corresponds to the line of deformity present in the limb — no forcible attempt is ever made to straighten the limb. The straightening process is a very gradual and easy one indeed, and is secured by means of a movable slide on the frame, upon which the pulley is fastened. It is rather an amusing as well as instructive and impressive sight to see the little legs cocked up at all possible angles all over the room. Experience has taught them that with the adoption of this plan came greater ease to their patients and more rapid

recoveries. No complaints are ever heard from the little ones after the first day or two expended in getting used to the newness of the position, unless accidental complications arise. Absolute rest *upon the back* is insisted upon and secured by constant watchfulness, and, better still, by a broad strap of webbing fastened to the bed, to which the shoulders of the patient are tied, so that, if the unruly bump is too well developed and the child attempts to get up as soon as the nurse's back is turned, he soon learns that all attempts result only in discomfiture. Do these children — many in a single room — grow pale and puny under all this restraint and confinement? Not at all, they grow fat and ruddy, their pain is relieved, their sufferings assuaged; kind hands tend to every want; they are, many of them, in better homes than they ever before dreamed of, and better than all, their bellies are filled with the fat of old England. I could not help saying to the doctor and attendants, that the most of the patients did not have any of the general characteristics of children suffering with hip-joint disease, they looked too well, their cheeks were too plump, their lips too red.

Some of the cases of recovery, in good condition after years of treatment commenced, when they were almost in the jaws of death, both hips diseased, almost surpass belief, and would give a thoughtful mien to the most devout believer in the triumphs of the knife.

After the flexion of the limb is overcome, abduction or adduction is counteracted by fixing the hips by a long splint to the sound side, and then a resort to lateral extension by weight and pulley upon the faulty limb and restoration to proper position gradually secured. After the case has gone to the end of this treatment and is practically well, usually with anchylosis, a splint termed Thomas' is fitted to the diseased side, crutches furnished and the little one turned out doors or into the play-room. At the same time the sole of the boot on the sound foot is raised two inches, so that the unsound limb can swing free from the ground and the joint be relieved from sudden jars too early after beginning to use it. Thomas' splint is an iron bar, about five Ctm. wide, and two Mm. thick, extending from well up on the back to the ankle, and bent in curves to fit accurately every

curve of the body and limb. Of course it is well padded, and has fitted to it, cushioned side pieces of soft leather, by which it is held in contact with every part of the body and limb. All surgeons here use it, and think well of it. I am positively assured by every one connected with this little hospital, that many permanent recoveries have crowned their efforts at relief, and deaths are far less frequent than after operations.

Where the operative procedure is carried out, the after treatment is quite similar to our own, slight extension. Some do the operation under the carbolized spray. Mr. Lister always, of course. In every operation that I have seen done, the surgeon, after clearing the head of the bone by the usual incision and dissection, has always made his section with the saw, previous to making any attempts to get the head of the bone out of the acetabulum. All seem to think it the better plan of procedure. No one ever claims to obtain a result which gives a more than fairly serviceable limb. The resected head is never entirely restored, no matter what the after treatment, nor do the movements promisable after operation ever equal the normal ones.

The advisability of excision of the knee for chronic degeneration would force into ranks exactly the same opinions and men as we have found opposing each other in questions referring to the hip joint.. The principal opponents to this operation are among men who ten years ago performed the operation often, especially in young patients suffering from progressive joint disease. I mean progressively chronic; it is to be presumed that no surgeon ever resects an acutely diseased knee joint. The mortality after the operation was so enormous, the good done was so slight in many cases, that they had been forced to believe the only proper course to pursue was narrowed down to one of two; either treat by absolute rest and extension, or amputate. Some of these gentlemen unhesitatingly prefer amputation; the recovery is rapid, suffering done away with, and the artificial appliances used subsequently, equal in efficacy the limb oftenest left after an excision, after which the agony is many times increased, and death frequently the result. The friends of the operation are equally as sanguine in favor of its benefits. Cases of this chronic nature are fearfully common in London, and it is

merely a question of which hospital they enter whether the excision is done or not. A dozen or so have been done during my sojourn here.

In most of them the synovial membrane was much thickened and softened, ulceration of the cartilages was commencing, or had proceeded to advanced destruction. The fluid was either pus, semi-purulent or quite natural. The contour of the joint was destroyed. Palpation gave the usual quasi-fluctuating, semi-elastic feeling. Constitutional depression was gradually becoming more noticeable, and all local and general symptoms showed the disease to be rapidly gaining ground in spite of any and all treatment. It requires a brave heart to be patiently quiescent as such a history gradually unfolds itself to the point where sacrifice of the limb becomes a necessity, or death ends the battle; it takes a bold one to assume the responsibilities of excision. Excisions of the hip joint are often done here as soon as the surgeon by manipulation is fully convinced that the slightest roughness of the cartilaginous surfaces is present, not waiting for the suppurative process, or later stages of the disease. The aim is to anticipate and avoid the suffering and distress which it is claimed surely follows after the trouble has fairly commenced. Such unbounded faith in operative procedure is certainly praiseworthy, if it is only supported by correspondingly good results. We hope to see soon a full statement of the many cases operated upon by those who act upon this faith and belief in treating affections of the hip and knee joint. In this way only can the profession at large draw any conclusions from the practice of equally good men, some of whom operate perhaps two or three times a year while the others see occasion to use the knife almost every week.

C. T. PARKES.

ARTICLE XI.

BERLIN, N. W. 6 Kronprinzen-Ufer den 29 ten May, 1879.

In the February number of the CHICAGO MEDICAL JOURNAL AND EXAMINER Dr. Caldwell gives an account of one of my lectures which he attended, and of a private conversation which he says I had with him about Prof. Charcot of Paris.

I hereby declare that I never authorized Dr. Caldwell to publish the substance of my lecture nor that of a private conversation. I further declare that the substance of my lecture is in part incorrectly reported, and that I cannot have used in speaking of Prof. Charcot, the expressions attributed to me by Dr. Caldwell, because they do not express my opinion.

Receiving frequent passing visits from foreign physicians I do not recollect the person of Dr. Caldwell nor the conversation to which he alludes, and therefore cannot say how this misunderstanding has arisen. I presume, unless I am to suppose an intentional misrepresentation on the part of Dr. Caldwell in his publication so contrary to all European notions of what is fitting, that the misunderstanding grew out of Dr. Caldwell's insufficient knowledge of German or out of my imperfect way of expressing myself in English. I do not know in what language the supposed conversation was conducted, and can only say that the English expressions which I am said to have used to the prejudice of Prof. Charcot were hitherto unknown to me.

Finally, I expressly declare that I have always felt and still feel the greatest respect and admiration for Prof. Charcot's scientific achievements and for his character as a man, and further that I never conceived the thought, much less expressed it, of passing such a judgment on his recent experiments in metalloscopy as Dr. Caldwell puts into my mouth.

DR. WESTPHAL.

ARTICLE XII.

BERLIN, June 24th, 1879.

To the Editors of the Chicago Medical Journal and Examiner, Chicago, Illinois:

GENTLEMEN:—I have seen in your journal for April, 1879, an article entitled, "Miscellaneous Surgical Notes from Berlin," by Dr. Caldwell. In justice to Dr. Martin, I wish to make a few comments upon what Dr. Caldwell says upon the subject, "Amputation of the Cervix Uteri."

The doctor says: "I am sorry to be compelled to believe that, like some others of our noted gynæcologists, he (Dr. Martin) is

bent on doing '*his*' operation as often as possible, and so submits many a poor woman to this treatment, *who might be relieved by a more simple procedure.*"

I do not object to the first part of the sentence, for naturally one's own operation must be the favorite one with its author, and he will perform it wherever he thinks it justifiable; this is especially true in the case of a new operation, where there are no theoretical objections to it, in order to produce statistics from which its efficacy can be judged. But I do object to the last clause, not only because I have sufficient confidence in Dr. Martin's honor to believe him incapable of such practice, but also because I do not believe this conclusion to be the result of reasonable judgment.

The object of this operation is, in many instances, not to cut away a diseased portion of the organ, but by its stimulating influence upon the tissues of the whole uterus, to cause involution of the same; and the operation may be very useful even when the objective symptoms are slight.

I believe that it is absolutely impossible that a simple frequenter of a gynæcological clinic, even if he does occasionally assist the operator, can be competent to judge of the necessity of an operation for the cure of chronic metritis (hyperplasia, as the condition is called by Dr. Thomas, of New York). Only the gynæcologist who has had experience, and who has carefully examined his patient — not once, but at intervals for a long time — can have a reasonable judgment of his own in the case.

Surely Dr. Caldwell does not fully realize the serious nature of the charge — for it amounts to a charge — he has brought against Dr. Martin in this careless manner.

Upon first reading that Dr. Caldwell has "seen him (Dr. Martin) and assisted him at this operation more than thirty times," one is inclined to believe that this is an experience upon which, surely, a reliable judgment can be founded; but, of course, each operation was performed upon a different patient, and no one of them was probably seen more than the ordinary clinical patient is seen.

As to the opinion that the accidents following his operations are kept in the background, I will simply say that it is a com-

mon practice of Dr. Martin to exhibit to his class the results of his operations at intervals, as long as the patients continue to be under his care.

Dr. Martin is not so "bent on doing '*his*' operation," but that I have seen him perform Schröder's and Hegar's and others, the authors of which I do not know; and he has told his class in my hearing, that the particular operation must depend upon the condition of the particular cervix uteri to be operated upon.

As to the case of occlusion of the os, following amputation, we all know that an accident or bad result is liable to follow any man's work, and that it is by our failures we learn more than by our successes. Now Dr. Martin places a rubber tube in the cervical canal, thus effectually preventing a repetition of such an accident.

In giving some statistics relating to this operation as performed by Dr. Martin, Dr. Caldwell says: "Of these cases only two died as a *direct result* of the operation," and in almost the next sentence tells us that one of these two "proved fatal from the supervention of typhoid fever." It seems to me extremely unfair to call the death of a typhoid fever patient a "direct result" of a surgical operation.

I have been a member of Dr. Martin's class for two months, and am so well pleased with his skill as an operator, and have such belief in his honor as a gentleman, that I think it a matter of simple justice to him to ask you to publish this in your journal.

Very respectfully yours,

E. T. TAPPEY, A.M., M.D.

LEAD POISONING FROM THE USE OF BABY-CARRIAGES.—According to the *Journal de Méd. de Bruxelles*, the covers of baby-carriages are constructed of a species of American leather, which contains a large quantity of lead, and, when exposed to the direct rays of the sun, they become a source of danger to the little innocents whom they are supposed to protect!

Domestic Correspondence.

ARTICLE XIII.

A LETTER FROM DR. HENRY A. MARTIN.

Messrs. Editors:

The "New York Letter" in your journal for May contains the following, "The gum bandage is being used very extensively; in synovitis, arthritis, in sprains and bruises it seems to act remarkably well. Its magical effect on old ulcers is not so prominent. The ordinary treatment for these is to first wash them off with carbolized water, 1 to 20, then cover them with cotton that has been soaked in a saturated solution of boracic acid; over this the gum bandage is applied. Under this treatment the ulcers soon fill up with granulations, but cicatrization is by no means rapid, and it seems to be thought by the staff that those who have secured such wonderful results with this bandage have mistaken granulation for cicatrization."

As the first printed publication of the method of treatment, not only of ulcers of the leg, but of a very extensive and various series of other diseases and injuries, principally though not exclusively of the lower extremities, by the application of bandages of "pure rubber" was made by myself in the issue of your valuable journal for November, 1877, and as my exclusive claim to the invention of that method has, marvellous to relate, not been questioned, I am naturally interested in whatever appears in *your* pages on the subject, and I hope excusable for offering some comments suggested by the above quotation.

Whatever the merits of the method of treatment of ulcers at the Roosevelt Hospital, it is not *my* method. It is doubtless considered an *improvement* upon it. In every publication or other

utterance that I have ever made on the subject I clearly recommend that a bandage of what is technically called "pure rubber" shall be applied *directly* to the skin and ulcerated or otherwise diseased surface, *without any other dressing whatsoever.* To the application and use of such a bandage, pure and simple, my own long and large experience, now confirmed by that of many thousand surgeons, not only in America but, and more numerously, in Europe, has led me to confidently ascribe an efficacy never before even distantly approached, in large classes of cases, in which are included vast numbers of instances of the most miserable and loathsome, though not lethal, of human physical infirmity; in which, indeed, all previous treatment had been extremely irksome and laborious to the practitioner, tedious and expensive to the patient, while its results were often so long postponed as to leave considerable doubt in the minds of both parties whether they were results of treatment and not of more or less impeded reparative effects of nature only; and, too often, these results were far from complete and enduring. I have not neglected the use of anything under the bandage from a lack of knowledge, or, at any rate, of experience of the value or merit of the means with which, not only the "surgical staff of the Roosevelt Hospital," but several other practitioners also, have seen fit to complicate and "improve" my method.

In the paper in which (*British Medical Journal*, Oct. 26th, 1878) I asked the attention of the profession of Great Britian to the use of the pure rubber bandage, I wrote:

"It" (the bandage) "is to be applied directly to the skin and surface of the ulceration without any lotion, salve, or other dressing whatsoever. The statement attributed to Mr. Hutchinson, that a piece of lint may be placed over the ulcer, has no authority from me. An essential point in the method is that *nothing whatever* shall be applied between the bandage and the ulcer. In a very few cases, a hyperæsthetic patient has been, or thought he (or she) was unable at first or at all to endure the rubber next the skin, and, in these cases (not one in a hundred), I have directed that a linen, cotton, or thin flannel "roller" should be applied to prevent the immediate contact of the rubber. I have done this rather than renounce the great advantages of

the india-rubber bandage entirely; *but it always delays the cure of the ulcer*. In cases of uncomplicated varicose disease, or in many joint cases in which the important use of my bandage is the support and security it affords, there is no objection to the application of an ordinary bandage under the rubber; but in cases of ulcer, eczema, and other cutaneous diseases, and many where the joints are affected, it is necessary, for the full attainment of the benefits of the treatment, that the bandage should be in immediate and close contact with the *skin*."

In the other two principal papers which I have published on the subject, I have, in other words, expressed precisely the same opinions. These plainly expressed notions of mine do not, of course, prove that the Roosevelt Hospital method is not much better, but they sufficiently prove—and that is my present object—that my method differs very essentially from that of the New York surgeons, and if the reader will take the trouble to refer to the papers to which I have alluded, he will find that before I reached the perfect simplicity of treatment which I practice and commend, I had thoroughly and patiently tested and abandoned entirely the Roosevelt method, and many more or less like it. I in no way criticise the New York "*improvement*," or deny that it is one, except so far as to say that in my opinion the application of *anything* between a properly made bandage and the skin will fail to promote, in the slightest degree, the ends attained by the proper application of the bandages *alone*, while carbolic or boracic acid, whether an ingredient of the bandage (as the former is of many advertised and sold in large numbers as "Martin's bandages"), or in ointment or lotion, alone or saturating a compress applied to a wound or ulcer, unless in an extremely dilute state, will very much delay the process of cicatrization. Lister's antiseptic method avoids, with the most elaborate and complicated care, the contact of carbolic or boracic acid with granulating surfaces. That great theorist is also enough of a surgeon to know that the *immediate* contact of such substances very seriously interferes with the process of cicatrization. In many hospitals, however, in America, the antiseptic method, an "improvement" on Lister's, consists in the most liberal inundation of wounds, ulcers, compound fractures—

everything—with the inevitable carbolized solution or oil. So much is this method esteemed, that it seems to take the place of and to be supposed to obviate the necessity for many antiquated notions of pre-carbolic surgery, as counter-openings, drainage, etc., etc. Your New York correspondent's quotation of the sage surmise that gentlemen who had reported ulcers rapidly and solidly healed by "Martin's bandage" did not know what they were talking about, and mistook granulation for cicatrization, is very far from complimentary to a very large and very illustrious body of practitioners in Europe and America. Do the surgical staff of the Roosevelt Hospital really think that there is a practitioner anywhere so ignorant as not to know an ulcer healed from an open ulcer. If that distinguished staff, in its same self-complacency and associated contempt for almost everybody else, is so credulous, does its credulity extend to the belief that Prof. Gunn, of Chicago, their own townsman Dr. L. D. Bulkley, Mr. G. W. Callender (Surgeon of St. Bartholomew's), and Jonathan Hutchinson, one of the very greatest surgeons living, and many equally eminent, who have all reported large numbers of cases of ulcer healed by the use of "Martin's bandage" *alone*, without any of the Roosevelt improvements, are also ignorant of the difference between cicatrization and granulation; that, in a word, that subtle and sublime item of surgical wisdom is well-nigh exclusively the prerogative of the "surgical staff of Roosevelt Hospital?"

I wish to say something more in regard to "gum" bandages. The use of the simple word "gum" for india-rubber and for all its compounds was, I think, principally confined to New York, and little known to the world outside of that favored city, till certain scandalous passages in its social history brought into the secular press of the country a racy correspondence touching a certain pair of "gum shoes." The material of which gum shoes are made contains a very small percentage of gum caoutchouc. Very few of the almost innumerable articles known as "rubber" contain more than a small proportion of india rubber, their ingredients, besides this, being very numerous and various. Carbonate of lead, oxide of zinc, oxide of mercury, sulphuret of antimony, sulphide of carbon, whiting, carbolic acid, litharge, wood naph-

tha, and an almost interminable list more. Bandages made of "gum" or "rubber," containing such substances as carbolic acid, sulphide of carbon, or carbonate of lead are totally unfit to be applied for any length of time to a sound cutaneous surface, and much less to an ulcerated or otherwise diseased or wounded one. If the bandages used at Roosevelt Hospital are like many I have seen, the method of preventing their contact with the skin is very wise and proper.

Immediately after the publication of my method, in Europe and in this country, there arose a very great demand for "Martin's bandages." To meet that demand, in obedience to a well known law, manufacturers produced immense quantities of bandages totally unfit for use, worthless or nearly worthless from their want of durability, and worse than worthless, absolutely injurious as applications, as I have directed, immediately and for long periods to the surface of the body. Of all these bandages, of which I have seen specimens, there was but one which I could conscientiously approve, and even this would prove unsatisfactory on the score of durability, for the rubber of which it was made, though of excellent quality was "green," *i. e.*, quite unseasoned. Not one of the rubber manufacturers ever came or wrote to me for directions or suggestion or even apparently (save in one instance) thought it worth while to obtain one of my bandages as a pattern, and so, without any knowledge or appreciation of the importance of making them of certain material and in a certain way, they produced and sold thousands of bandages, reports of the want of durability of which, and of the imperfect and unsatisfactory results from the use of which are made by men who I know in some instances, and surmise in very many more, never think their disappointment can have anything to do with the quality of the bandages employed, but that it is due to my having overstated the value and efficacy of the new method. Reports have been published in English medical journals of precisely the same failure of the process of cicatrization noticed at the Roosevelt Hospital, which has been due to the use of bandages reeking with carbolic acid. I wrote to the reporter, informing him of the cause of his partial failure; he procured bandages from my London agents, and results obtained from their use, with the very

patients on whom the carbolized bandage had failed, speedily convinced him that my explanation was correct. I sent the same information, for the benefit of the European profession, to two of the most top-lofty of English medical journals. It was not published, and for this simple and sole reason, viz., that the manufacturers of the bandages which had been, at one stage of the manufacture, soaked in a strong solution of carbolic acid, to disguise the fetor of inferior "gum," and with a forlorn hope to prevent its rapid deterioration or "rotting," advertised very largely in the said high minded journals, and are the source of pleasant rills of income flowing into their coffers. It was, of course, in their estimation, far better that practitioners should be cheated, patients wronged and injured, and (but that is hardly worth mentioning) my method misrepresented and misjudged, than that the pleasant and mutually profitable relations between most "respectable" and wealthy though rascally dealers and these dignified journals should be in any way or degree disturbed, and, above all, in the interest of an unknown and insignificant trans-Atlantic doctor.

Without entering at all into a detailed account of the very numerous and interesting processes in the manufacture of pure rubber bandages, I will state that "Martin's bandages" *should* be, and those inspected by myself and sold by my agents *are*, made of the very finest selected extra price Para rubber, thoroughly cleaned, and losing from twenty to twenty-five per cent. thereby, rolled into coarse sheets, called "mats," and seasoned for from at least 6 to 12 months. In addition to this, literally nothing except the extreme minimum of pure sublimated sulphur, absolutely necessary with heat to effect the "curing," enters into the composition of the bandage. At a certain stage of manufacture, just before curing, the immense sheets of which my bandages are made are covered with an impalpably fine powder of French chalk. This, with a slight efflorescence of sulphur, produces the light grayish appearance of my bandages, but this is quite extraneous, and is entirely removed by a few days' wear. This purity of the material of the bandages is of the very highest importance, as is also another quality, viz., the most perfect possible smoothness. In previous writings I have not dwelt on this. I had never used

any bandages except smooth ones; it never occurred to me that any one would make bandages to be applied directly to inflamed, irritable and ulcerated surfaces other than smooth. Since those publications, great numbers of bandages have been made (once, by a rascally manufacturer, for myself) deficient in smoothness, and the effects from the use of these have instructed me as to the necessity of cautioning the profession against any rubber bandage, if to be worn next to the skin, that is not, besides being pure, as above indicated, of the most perfect attainable smoothness. Very much against my original intention and wish, as the only way to save the innovation in treatment in which I am so deeply interested from misjudgment and more or less oblivion and neglect, I have become interested in the manufacture of rubber bandages. The manufacturer, a warm personal friend, and enthusiastic believer in my method, has been so kind as to give the matter an amount of his personal attention and supervision which, as a matter of business, can never be repaid; at every stage of the manufacture he gives me every facility for inspection, and every bandage made by him for me is stamped with a *fac simile* of my signature in carmine ink, and fully warranted to possess the most perfect durability and to be made of the very best material, in the very best possible way. These bandages, made in twelve different sizes, and of four different degrees of thickness, can be obtained from myself, or from either of my agents, in London and Boston, who are instructed to at once exchange any bandage thought to be defective in any way for a perfect one, or return the price, as the purchaser may elect.

I would gladly have avoided the trouble the supervision and care of this business gives me. I will at once drop it, so soon as the market is fully supplied, from other sources, with "Martin's bandages," such as alone I recommend, or have ever recommended. At present, I regard the continuance of the enterprise as absolutely necessary to my own reputation and that of the method I have fully and frankly offered to the profession and the public.

I offer no apology for the length of this letter. The physicians of the West largely employ "Martin's bandages." They were led to adopt the practice from hearing my remarks, at Chicago,

in June, 1877, and from reading my paper, in your journal, in November, 1877, and it is nothing less than a duty for me to write, for their instruction, much contained in this communication.

If gentlemen rigidly and exactly following the directions I have given, fail to obtain results of treatment such as I have indicated and promised, let them first thoroughly and accurately ascertain whether the bandages they have used are such as alone I recommend. If they find that the bandages are all right, then let them "pitch into" me and my method; but if they use bandages such as are sold by the thousand, and adopt "dodges" and improvements on my method, they must see the injustice of reporting their results as results of Martin's method of using "Martin's bandage."

HENRY A. MARTIN,
June 23, 1879. 27 Dudley St., Boston.

ARTICLE XIV.

MESSRS. EDITORS:

Our State medical Society recently held an annual meeting, which was successful in all respects, and was made especially interesting by discussions on papers which were read before the general meeting. Papers on chosen subjects are read, by physicians who are appointed to this duty by a committee on medical essays. But in the previous years, at the annual meeting of 1878, for instance, the papers were listened to without a word of comment. This lack of responsiveness was criticised in the published report of the meeting. This year, however, President Lyman called upon various gentlemen for remarks, which gave rise to a spontaneous discussion. This feature is one which not only makes these meetings more valuable, but gratifies and partly compensates the readers, who, having expended much thought and research in the preparation of their papers, deserve recognition of this better sort.

Days before the meeting, the Fellows of the society are made acquainted with the subjects of papers to be read, and consequently there is no reason why they should not prepare them-

selves to speak. This increases the interest of papers which otherwise seem to fall flat, to the great disgust and discomfort of the gentlemen who have carefully and conscientiously written them.

The annual meeting of the Massachusetts Medical Society is held in some convenient hall, the executive officers having their quarters in the same building. That chosen for this year afforded abundant space, so that various surgical instrument makers and medical book publishers of this city and New York were able to make a fine exhibit of their wares; a most excellent thing for practitioners from the country, who of course but seldom have opportunity to examine the recent ingenuities in surgical and medical appliances.

At one o'clock on the second day of the meeting, the annual dinner is spread in our spacious music hall. The Fellows march in to the music of an orchestra, which is stationed in one of the galleries, and, with the exception of officers and invited guests, who are seated at special tables, they take their seats wherever they choose, at either of the long tables on the floor of the hall. An hour being given to the enjoyment of the dinner, which, this year, was particularly good, because nothing but cold dishes were provided, the anniversary chairman calls the meeting to order, and opens his budget of toasts, which are more or less *à propos*, according as his familiarity with the characteristics of respondents is extensive, and his own wit nimble and flexible.

The invited guests usually comprise the governor, the president of Harvard University, collector of the port, surgeon-general, a distinguised clergyman, who likewise officiates as annual chaplain, and representatives of the army and navy. The first gentleman called upon to respond, by courtesy, is the president of the society, then the president elect for the following year, next the governor, or in his absence his lieutenant. Toasts and responses are commonly interesting and provocative of mirth, for the speeches made at a doctor's dinner are apt to be amusing. The laymen present of course make use of what that body apparently considers its especial privilege, and so the antiquated changes upon the benefit to patients of the absence of their physicians, *et id genus omne*, are freely rung. At our dinner of this year about 650 gentlemen were present, of whom only five were laymen.

The affair lasts from one to four o'clock, fine music enlivens the occasion, and the companionable cigar of nearly every guest contributes to the cloud which slowly forms under the ceiling. After the dinner, and previous to the speeches, the Fellows form in groups and couples and distribute themselves about the galleries of the great hall. In every way the occasion is one of most agreeable enjoyment, especially to those faithful, hard working physicians from the country, who from year's end to year's end probably have no other relaxation from their wearying round of duties. It is hardly necessary to say that they, in common with the city Fellows, are proud of this grand old society, whose influence is so widely felt, and whose character deservedly stands so high.

The red letter feature of the annual meeting of the society is the annual gathering of its councilors, which body includes the officers and the various committees, and in whose care is placed the settlement of all the ethical, legal, financial and literary matters. For many years the councilors have met in contracted, inconvenient, stuffy rooms on temple place. This year they met, and will hereafter meet, in the beautiful hall of the Medical Library building, of which I gave you a description in a former letter. Henceforth, too, the archives and records of the society, heretofore kindly preserved by the Massachusetts Historical Society, will be deposited in this building, a safe having been provided for the purpose.

At this meeting discussions are as frank as they often are exciting. Last year the bone of contention was a new code of ethics, which even now has not reached a satisfactory completion. The woman question also came up, having been launched into the stream of discussion by a resolution from one of the district societies, which crystallized the topic by requesting the admission to the society of female practitioners "in good and regular standing." A committee appointed by the district society had canvassed the State, by addressing to Fellows of the parent society the question as to whether they advocated, or objected to the admission of women. The result, as embodied in their resolution, seemed to indicate a favorable response from the majority; but, since over 40 per cent. did not respond, the

the councilors were not particularly credulous of the sanguine view taken by the committee in question. After some rather warm debate the matter was referred to a special committee, and has since been re-referred (this was at the winter meeting of the councilors), and finally at the recent gathering it was again postponed, because of the absence of Dr. H. W. Williams (one of the committee), who wished to express his views, but was detained by a most distressing accident to one of his children, which occurred only an hour before the time of meeting. The motion to postpone to the October meeting called forth some warm expressions, which implied that feeling and opinion, pro and con, were of a decided nature. This meeting gives large opportunity to the oratorically disposed, and since some of the councilors are politicians and members of the general court, their familiarity with parliamentary law is often made most amusingly evident. Now and then discussions become so earnest that the president's gavel is kept busy. Nevertheless, however warm the feeling of disputants may be, it is honest, generally serious, and its object is a sincere desire to promote the best welfare of the society.

We anticipate a certain degree of fervor in the discussion of the woman question at the October meeting. I shall take care to inform you of the result. It is a question which, at the present time, is interesting the laity as well as the medical faculty throughout the State.

You may have read that application for the admission of women to the Harvard medical school was made by interested parties, some fourteen months ago, and was the more calculated to awaken public interest from the fact that Miss Marion Hovey, as one of the trustees of a fund bequeathed by her father for benevolent purposes, proposed to present the sum of $10,000 to the school, on condition that "its advantages be offered to women on equal terms with men." The question of accepting the offer was referred to the overseers for their consideration and advice. They placed the communication in the hands of President Eliot and a committee, the chairman of which, Mr. Alexander Agassiz, issued a circular containing the following questions.

1. Are you in favor of admitting women to the medical school?

2. Are you in favor of admitting women on equal terms with men?

3. Are you in favor of a separate school for women?

4. If in favor of medical co-education, specify the subjects which, in your opinion, can be taught in common, and those in which men and women should receive separate instruction.

This circular was addressed to members of the Massachusetts Medical Society, a postal card being included, which bore numbered blanks for replies. What the exact result in negative and affirmative reply was, I do not know, but recently an adjourned meeting of the overseers of the university was holden, at which the matter was thoroughly discussed. Two reports, a majority and minority report, were presented. The former examined the question in all its bearings; and closed with a recommendation that the trust offered by Miss Hovey be accepted, under conditions which, briefly, were these:

"That, after the completion of a new building, women be admitted to the school, as an experiment, for a period of ten years.

"That they be not less than 22 years of age.

"That requisitions for admission, and the curriculum, be the same as for men.

"That the examination of men and women be identical.

"That nothing shall be countenanced which will lower the standard of the school, or affect the execution of the plans formed for its development.

"That the courses of lectures in which students take no active part be open to both sexes; that for personal instruction in laboratories and for recitation, men and women be separated; and that complete separation be made in such subjects as obstetrics, diseases of women and children, certain portions of anatomy, physiology and the like."

The sense of the minority report was, that while the admission of women to the profession of medicine is legitimate, perhaps called for, they will do far better in schools of their own, especially so since a plan requiring separation of the sexes in certain branches would be less advantageous to women than a school devoted exclusively to their sex.

It was finally voted "that the overseers find themselves unable to advise the President and Fellows to accept the generous proposal of Miss Hovey."

It was further voted, "that in the opinion of the overseers, it is expedient that, under suitable restrictions, women be instructed in medicine in Harvard University, in its medical school."

The latter was a qualifying vote which left some doubt as to the real feeling of the overseers. Nevertheless, the result was practically decisive against the admission of women to the school.

This is a cause of satisfaction to the faculty of the school, as well as to the majority of physicians here. Notwithstanding the sanguine tone of the petition, there is no popular demand for the coeducation of young men and women in medicine. Petitions of this nature are rarely trustworthy, for a mere signature does not always indicate the real sentiments of the signer, who may have given his name from sheer inability to refuse, and probably without due and careful forethought.

I merely present the case as it stands and without further comment, preferring to await the doings and opinions of the councilors' meeting of the State society. It will probably do much to settle the whole matter, so far as Massachusetts is concerned.

Before I close, I cannot deny myself the pleasure of giving you the remarkable obituary notice of the death of Drs. Jacob Bigelow and J. B. S. Jackson, which was read at the late meeting of councilors, by Dr. Calvin Ellis, the chairman of a committee appointed for the purpose:

"When at this, our annual meeting, we call the roll and receive no response from

JACOB BIGELOW, or
JOHN BARNARD SWETT JACKSON,

"whose lives were full of noble labor, we are reminded that the mere mention of their names is a fuller expression of a sense of loss than any formal phrase of ours."

The unusual force and beauty of this testimonial created a deep impression.

* *

BOSTON, July 12, 1879.

Article XV.

Health Department in Hyde Park.

Many physicians whose practice extends within the limits of this suburb, are unaware of the existence of the health department. For the benefit of such practitioners, I beg leave to respectfully call attention to this matter through the columns of the Journal and Examiner. The Health Department was established in September, 1878. The executive officer is the Village Physician who is appointed by the Board of Trustees. The duties of the Village Physician, in so far as physicians and midwives are concerned, are defined in the following selections from Chapter XXI of the Ordinances of the Village of Hyde Park:

"Section 1. Every practicing physician in the village, who shall have a patient laboring under yellow fever, small-pox or other infectious or pestilential disease, shall forthwith make a report thereof in writing, to the Village Physician describing the locality of the house or place where the said patient may be.

"Sec. 2. No person shall put out, remove or allow to be put out or removed, from the premises or place occupied or owned by him, into any street, alley or other public place in said village, any person having the small-pox or any other pestilential disease; but each owner or occupant shall immediately report such case to the Village Physician or the President of the Board of Trustees.

"Sec. 10. Every physician, midwife or other person who may professionally assist or advise at any birth or death, shall make a return of such birth or death to the Health Department of this village, such as is now required by the State Board of Health to the County Clerk. Said returns of births shall be made to said Health Department within ten days after the date of such birth, and returns of deaths shall be made to said Health Department within twenty-four hours after such death may occur. It shall be the duty of said Village Physician to transmit the returns of births and deaths aforesaid to the County Clerk within the time now prescribed by law.

It was finally voted "that the overseers find themselves unable to advise the President and Fellows to accept the generous proposal of Miss Hovey."

It was further voted, "that in the opinion of the overseers, it is expedient that, under suitable restrictions, women be instructed in medicine in Harvard University, in its medical school."

The latter was a qualifying vote which left some doubt as to the real feeling of the overseers. Nevertheless, the result was practically decisive against the admission of women to the school.

This is a cause of satisfaction to the faculty of the school, as well as to the majority of physicians here. Notwithstanding the sanguine tone of the petition, there is no popular demand for the coeducation of young men and women in medicine. Petitions of this nature are rarely trustworthy, for a mere signature does not always indicate the real sentiments of the signer, who may have given his name from sheer inability to refuse, and probably without due and careful forethought.

I merely present the case as it stands and without further comment, preferring to await the doings and opinions of the councilors' meeting of the State society. It will probably do much to settle the whole matter, so far as Massachusetts is concerned.

Before I close, I cannot deny myself the pleasure of giving you the remarkable obituary notice of the death of Drs. Jacob Bigelow and J. B. S. Jackson, which was read at the late meeting of councilors, by Dr. Calvin Ellis, the chairman of a committee appointed for the purpose:

"When at this, our annual meeting, we call the roll and receive no response from

JACOB BIGELOW, or
JOHN BARNARD SWETT JACKSON,

"whose lives were full of noble labor, we are reminded that the mere mention of their names is a fuller expression of a sense of loss than any formal phrase of ours."

The unusual force and beauty of this testimonial created a deep mpression. * *

BOSTON, July 12, 1879.

ARTICLE XV.

HEALTH DEPARTMENT IN HYDE PARK.

Many physicians whose practice extends within the limits of this suburb, are unaware of the existence of the health department. For the benefit of such practitioners, I beg leave to respectfully call attention to this matter through the columns of the JOURNAL AND EXAMINER. The Health Department was established in September, 1878. The executive officer is the Village Physician who is appointed by the Board of Trustees. The duties of the Village Physician, in so far as physicians and midwives are concerned, are defined in the following selections from Chapter XXI of the Ordinances of the Village of Hyde Park:

"SECTION 1. Every practicing physician in the village, who shall have a patient laboring under yellow fever, small-pox or other infectious or pestilential disease, shall forthwith make a report thereof in writing, to the Village Physician describing the locality of the house or place where the said patient may be.

"SEC. 2. No person shall put out, remove or allow to be put out or removed, from the premises or place occupied or owned by him, into any street, alley or other public place in said village, any person having the small-pox or any other pestilential disease; but each owner or occupant shall immediately report such case to the Village Physician or the President of the Board of Trustees.

"SEC. 10. Every physician, midwife or other person who may professionally assist or advise at any birth or death, shall make a return of such birth or death to the Health Department of this village, such as is now required by the State Board of Health to the County Clerk. Said returns of births shall be made to said Health Department within ten days after the date of such birth, and returns of deaths shall be made to said Health Department within twenty-four hours after such death may occur. It shall be the duty of said Village Physician to transmit the returns of births and deaths aforesaid to the County Clerk within the time now prescribed by law.

"SEC. 12. No remains of any human being, having died within the corporate limits of the village, or whose body may have been found within the limits of the same, shall be removed from this village for interment, or otherwise, nor shall said remains be interred within the corporate limits of the Village of Hyde Park until the certificate, as required in Section 10 of this Chapter, shall have been filed at the office of the Health Department and a permit first had and obtained for each removal and interment."

It may be well to state that the Village of Hyde Park extends from 39th street to the Calumet river, and from State street to the lake, and includes the localities known as Oakland, Kenwood, Woodlawn, Egandale, Forrestville, Anthony, Park Side, Grand Crossing, South Chicago, Irondale, Holland Settlement, Wildwood and portions of Englewood, Riverdale, Colehour and Kensington.

Burial permits can be obtained upon the presentation of a death certificate from a physician, or the findings of a coroner's jury at Kenwood av, east 47th street, before 9 a. m. and after 7 p. m.; at the Village Hall at 10 a. m., or at 5001 State street (corner of 50th street) between 11 a. m. and 1 p. m., and 4 and 6 p. m., (Sunday, between 3 and 6 p. m).

Physicians are requested to report all cases of yellow, ship or typhus, typhoid, scarlet and spotted fevers, cholera, small-pox, chicken-pox, measles, whooping-cough and diphtheria. Blanks for this purpose will be furnished on application.

Cases of infectious diseases will be quarantined when necessary, and proper measures taken to prevent such diseases becoming epidemic.

The hearty co-operation of physicians in the requirements of the Health Department is earnestly solicited.

WILLIAM H. D. LEWIS,
Village Physician.

DR. WM. H. BYFORD having been invited to read a paper before the Obstetrical and Gynæcological Section of the British Medical Association, has sailed for Europe with that object in view.

Editorial.

ARTICLE XVI.

ILLINOIS STATE MEDICAL SOCIETY.

In compliance with the request of one of the editors of this journal, the Secretary of the State Medical Society furnished the full official record of the proceedings of the recent annual meeting for the July number. The manuscript was contributed rather late in the month, and by some mistake or oversight, it was put to press without allowing the Secretary to see a copy of the proof sheets. The consequence is a lamentable number of typographical errors, mostly in the names of persons and places. In the first of the resolutions offered by Dr. Nesbitt, printed on page 86, instead of "County *Surgeon*" it should be County *Surveyor*. The number of papers read before the State Society during its recent meeting was large, and they were well written; and with the record of proceedings will make a volume of transactions containing between two and three hundred pages. Besides the reading and discussion of reports and papers of value relating to the science and art of medicine, the attention of the society was given to several other topics of general interest. Both in the address of the president and the report of a special committee, the sentiments of the society were strongly and unanimously expressed in favor of amending the present State law in relation to the mode of determining questions of insanity with reference to restraining the insane, or committing them to the care of asylums. It will be seen by reference to the proceedings that the report of the committee on this subject was brief and judicious. That report, accompanied by the endorsement of the society, was immediately presented to the legislature, by Dr.

Nesbitt, listened to with attention, and referred to the committee having the bill for amending the law in charge. The legislature, however, subsequently adjourned without passing the bill, thereby still leaving upon the statutes of our State the arbitrary, and in some respects cruel, provision that every person charged with insanity or mental unsoundness, must be brought into open court, confronted with witnesses and tried by a jury. Another subject worthy of attention, was embodied in the preamble and resolutions offered by Dr. G. W. Nesbitt, of Sycamore, asking for the framing and enactment of a law establishing in each county in the State, a "board of commissioners of hygiene," to consist of the County Superintendent of Schools, County Surveyor and one physician, whose duty it should be to exercise a superintendence over the construction and sanitary condition of all public school buildings and locations. A committee consisting of Drs. G. W. Nesbitt, H. M. Lyman and J. H. Rauch, was appointed to draft a law and report at the next annual meeting of the society. The object sought to be obtained is one of great importance, and should receive the earnest practical attention of every intelligent physician, whether he is appointed on a commission of hygiene or not. And yet we think every proposition to increase the number of municipal, county or State officers or commissioners, should be viewed with some distrust.

There is too great a tendency to relieve the people of responsibility by committing their duties to commissioners or some kind of public officers, and yet all experience shows that, in nine cases out of ten, such official positions are filled with mere political partisans, who are more anxious for the success of the political party than for the health and welfare of any part of the community. In matters of hygiene, especially in regard to the management of children and schools, every physician should consider himself responsible for the proper education and instruction of every family to which he has access, and for an active interest in the sanitary condition of every school building in his neighborhood. In other words, every educated physician should be an active conservator of the health of the community in which he lives, and not a mere *prescriber* for the sick.

Article XVII.

College Lecture Fees.

We see by the annual announcements of the several colleges, that all the regular medical colleges in Chicago and Cincinnati have placed the annual lecture fees at $75, instead of ranging from $40 to $55, as heretofore. This is a judicious move in the right direction, and is all the more commendable from being done, simultaneously, by all the more important schools in the West, whose trustees and faculties, had in former years allowed the influence of the substantially free medical schools attached to the State Universities of Michigan and Iowa, to depress their lecture fees to an unduly low figure.

Pposphaturia in its Relation to Surgical Operations. (*Progrès Médical.* M. Verneuil.) M. Verneuil called the attention of the Academy of Medicine to a recent thesis by Mr. Tessier, of Lyons, in which he reported certain cases of phosphaturia associated with certain ocular affections, which on that account became exceedingly troublesome. M. V., having his attention drawn to the subject by this thesis of Mr. Tessier, soon observed analagous cases. A small fibroid tumor was removed from the thigh. The operation was in itself insignificant, yet troublesome hæmorrhage followed, considerable suppuration, the cure requiring a period of six months. During this period it was ascertained that the urine contained large quantities of earthy phosphates. He also observed that in an individual, the subject of phosphaturia, or excessive discharge of phosphates, fractures would seem to be more readily effected, and the union more tardy. It appears from M. V.'s paper that phosphaturia retards reparation of wounds, and render the bones more fragile. Looking at the question more generally, M. V. concludes that the phosphaturia was not at all the *result* of the wounds or fractures, but more or less the *cause* of the fractures and the tardy union of wounds.

Reviews and Book Notices.

ARTICLE XVIII. — A MANUEL OF EXAMINATION OF THE EYES. By Dr. E. Landolt, Directeur-adjoint of the Ophthalmological Laboratory at the Corbonne, Paris. Translated by Swan M. Burnett, M.D., Lecturer on Ophthalmology and Otology in the Medical Department of the University of Georgetown, etc. Revised and Enlarged by the Author. Philadelphia: D. G. Brinton, 115 South Seventh St., 1879; pp. 307.

This book is a most admirable and complete *exposé* of our means and methods of making a thorough scientific examination of the human eye. The scope of the work is delineated on page 20, in the following words: "We shall divide our examinations into the *objective* and *subjective*, the first having for its object to make us acquainted with the eye in a state of functional inactivity, the second to determine the condition of the function of vision.

"The *objective* examination should begin with a general inspection of the patient at a distance, in which we note all that we are able to observe as to his general appearance, and, in particular, the appearance of his eyes, as, for example, their position, etc.

"Afterwards, we examine all parts of the visual apparatus which are accessible to the naked eye, the lids, lachrymal passages, conjunctiva, the form and size of the globe, the cornea, sclerotic, iris, crystalline lens and anterior portion of the vitreous humor. The examination is completed by the determination of the ocular tension.

"In the *subjective* examination, the various functions of the eyes are passed in review, such as movements, refraction and accommodation, acuteness of vision, perception of color, limits of the field of vision, the periphery of the retina.

"Finally, the examination with the ophthalmoscope and the oblique light will show us the condition of the interior of the eye and the dioptric media, and also give us definite ideas regarding the refraction."

It will be observed that the author reserves the ophthalmoscopic inspection, though it forms a part of the *objective* examination, for the end of the examinations. His reasons for so doing are that the ophthalmoscope "always dazzles the eye to a greater or less degree, and renders the functional examination afterward somewhat less satisfactory. Moreover, the ophthalmoscopic examination requires a dark room, and it is better to make at first, all those examinations that are possible by daylight. Moreover, the facts gained by subjective examination are very useful in interpreting the ophthalmoscopic appearances."

This is, perhaps, a matter of opinion rather than of fact; for in our experience we cannot recall a case in which a preceding use of the ophthalmoscope has interfered with the subsequent examination of the functions. But on the other hand, we find it very advantageous to ascertain by the ophthalmoscope the condition of the interior of the eye in all cases of disturbed vision, before we enter into a minute examination of the functions. If the ophthalmoscope reveals a diseased retina as the cause of the visual defect, the functional examination at once is shortened, because it would neither be necessary nor judicious to submit such an eye to a prolonged test of its refraction or accommodation.

In the chapter on "Refraction and Accommodation," the metric system is adopted, according to the proposition of the International Ophthalmological Surgeons held in Brussels in 1875. The unit of the new system is a lens of *one meter focal distance;* it is called a *Dioptry;* and we are informed that the most essential advantages of the new system over the old one are:

1. Numbering the lenses according to their focal power.
2. The unit sufficiently feeble, so that the numbers of the glasses generally in use should be expressed in *whole numbers* and not in fractions.
3. Having the intervals increase gradually from the feebler to the stronger numbers.

This is not the place for discussing the pros and cons of this new departure in optics; but we must say that the reader of Landolt's book may have some difficulty in appreciating the wisdom of this new system with a unit sufficiently feeble to enable us to express the numbers of the lenses in *whole numbers*, if, half a page further on, he is informed that: "It has been found in practice, however, that we have need of lenses weaker than one dioptry. And for this reason there have been admitted into the scale fractions of a dioptry. We have lenses of $\frac{3}{4}$ D. (0.75 D.), $\frac{1}{2}$ D. (0.50 D.) and $\frac{1}{4}$ D. (0.25 D.). Quarters of a dioptry have likewise been introduced between the weaker numbers of the series up to No. 2.5, and half dioptries from No. 2.5 up to No. 6."

But this is no fault of Landolt's, and cannot detract an iota from the merits of his book. Written in the attractive, easy style of lectures, unincumbered by unnecessary mathematical formulas, printed on heavy paper and in large and clear type, translated with care and skill into fluent English, this book will contribute largely toward awakening greater interest for ophthalmology among the reading members of our profession.

F. C. H.

ARTICLE XIX.—A GUIDE TO THERAPEUTICS AND MATERIA MEDICA. By Robert Farquharson, M.D., Edin. Second American edition, revised by the author. Enlarged and adapted to the U. S. Pharmacopœia by Frank Woodbury, M.D. Cloth, pp. 498. 1879. Philadelphia: H. C. Lea.

The special feature about this book is the arrangement in parallel columns of the physiological and therapeutical action of the various drugs considered. The author has felt it necessary to make a quasi-apology for the use of the words "Materia Medica," and we think with reason. We fail to find anything in the book that justifies the interpolation. The value of a new book on Therapeutics must be looked for in the accuracy, conciseness and completeness of the information afforded.

Speaking of ammonia, our authors tell us (p. 130): "It has, therefore, been used with success by Richardson in those cases where, as after delivery, *diphtheria*, *ovariotomy*, etc., a clot is

forming in the heart, and he recommends it by injection into the veins, stopping short of the solution of the red corpuscles." We might have been favored with information how to know when a clot is "forming in the heart," how we are to know when to stop "short of the solution of the red corpuscles," and of what strength to make the injection.

Speaking of aconitia, p. 105, we find, "not given internally." On page 109 we read: "Prof. Gubler, of Paris, values it very highly in neuralgia of the fifth nerve, which he has never known to resist a quarter of a milligram of the nitrate of aconitia."

Although the foundation of this book was laid across the water, the English is by no means without blemish. R. T.

ARTICLE XX.—PHOTOGRAPHIC ILLUSTRATIONS OF SKIN DISEASES. By George Henry Fox, A.M., M.D., Clinical Professor of Dermatology, Starling Medical College, Columbus, O., Surgeon to the New York Dispensary, etc.. Forty-eight colored plates taken from life. *Part No.* 1: Comedo, Acne (Vulgaris), Lepra (Tuberosa), Elephantiasis. *Part No.* 2: Keloid, Rosacea, Psoriasis (Nummulata), Ichthyosis (Simplex). *Part No.* 3: Fibroma (Pendulum), Varicella, Zoster (Pectoralis), Zoster (Lumbalis), Eczema (Universale). *Part No.* 4: Leucodermia, Chromophytosis, Favus (Capitis), Favus (Corporis), Eczema (Cruris). New York: E. B. Treat, No. 805 Broadway. Sold by subscription. W. T. Keener, Chicago agent.

Sharply and clearly taken photographs are probably the most perfect representations of nature which it is possible to obtain. They fail, however, in respect to coloring, which is so essential to a faithful portraiture of any object possessing color. Artistically colored photographs give an idea of the objects represented which it is difficult to excel in the matter of accuracy.

These illustrations of skin diseases are admirably perfect representations of the diseases named above, since they meet very faithfully the requirements as to color and exact reproduction of the original. Dr. Fox has been for several years identified with the effort to represent the dermatological field with accurate photographs, and indeed had excellent results even before he attempted to reproduce the pathological tints. In the

present work he has received, in the labor of coloring his impressions, the excellent aid of Dr. Gaertner, who was lately a student under the famous Hebra, in the General Hospital of Vienna.

By a method which has never before been applied to photographs of diseases of the skin, the publishers have succeeded in printing directly from the glass photographic negatives, and can thus assure their subscribers that the impressions are indelible.

The letter press which accompanies and explains each photograph, is a concise and clear exposition of the diagnosis and treatment of each disease considered, a feature which will especially commend these illustrations to the general practitioner.

It should be added that the forty-eight illustrations which it is intended to produce will be selected from the author's extensive and valuable collection. There will, therefore, be no delay in the production of the work.

We recommend these photographs to the student and practitioner with the assurance that they are admirably exact in representation, and well calculated to assist in acquiring a knowledge of dermatology. We cannot conclude better than by quoting the words with which Dr. Fox introduces his work: "The study of skin diseases without cases or colored plates, is like the study of osteology without bones, or the study of geography without maps." J. N. H.

ARTICLE XXI. — READING BOOK OF ENGLISH CLASSICS FOR YOUNG PUPILS. Selections from the standard literature of England and America. By C. W. Leffingwell, D.D. New York: S. G. Putnams' Sons, 1879; 12mo., pages, 403.

Any step in the direction of improving the hygiene of the school-room, is worthy of notice in a medical journal. In this reader the compiler has applied correct principles, as regards size of type and tint of paper. If every school book in each department of study were printed with due respect to these principles — if in the preface, or somewhere in the text of these books, were a few rules on the use and abuse of the eyes — much injury of sight, in spite of ignorance and carelessness, would be avoided.

Commissioners who have in charge the construction of school buildings, can do much to preserve good vision in the young, by

securing sufficient evenly distributed light, and also by constructing seats and desks in the most approved form.

We trust in future editions of this reader and in other similar works, which the author has in preparation, more will be said on these important subjects. E. L. H.

ARTICLE XXII.—A GUIDE TO THE QUALITATIVE AND QUANTITATIVE ANALYSIS OF THE URINE, DESIGNED FOR PHYSICIANS, CHEMISTS AND PHARMACISTS. By Dr. C. Neubauer, Professor, etc., in Wiesbaden, and Dr. J. Vogel, Professor of Medicine in the Uuiversity at Halle. New York: William Wood & Co, 1879.

This is a translation of the seventh German edition of Neubauer and Vogel's well-known manual of Urinalysis. It is a work which needs no commendation at our hands; it is a noble record of painstaking and untiring industry and scholarship. We are glad to be able to add that the translator (Dr. Elbridge G. Cutler), has done his work wisely and well—so well in fact, that the book, in its English dress, is readable and interesting.

I. N. D.

BOOKS AND PAMPHLETS RECEIVED.

Pocket Therapeutics and Dose Book. By Morse Stewart, jr., B.A., M.D. Second Edition. Revised and Enlarged. Cl., pp. 263. Detroit: G. D. Stewart, 1878.

Sixteenth Annual Report of the New York Society for the Relief of the Ruptured and Cripple. May, 1879.

Third Annual Report of the State Board of Health of the State of Wisconsin for the year ending Dec. 31, 1878. Paper; pp. 183.

The American Medical College Association. Third Annual Meeting, held at Atlanta, Ga., May 3 and 5, 1879.

Constitution and List of Members of the American Public Health Association.

On Some Points in Connection with the Treatment of Sterility. By A. Reeves Jackson, A.M., M.D. Reprint from Vol. III. Gynæcological Transactions.

Notes on Intra-Ocular Lesions Produced by Sunstroke. By F. C. Hotz, M.D.

An Argument made before The American Medical Association at Atlanta, Ga., May 7, 1879. By Edward S. Dunster, M.D. Reprint from *Physician and Surgeon*, June, 1879.

The Casual Lesions of Puerperal Convulsions. A Paper read before the Pathological Society of Philadelphia, April 28, 1878, and reprinted from the Transactions. By James Tyson, M.D. Philadelphia: J. B. Lippincott & Co.

Atlas of Histology, Part IV. By E. Klein, M.D., F.R.S., and E. N. Smith, L.R.C.P., M.R.C.S. Chicago: W. T. Keener; Philadelphia: J. B. Lippincott & Co.

The Future Influence of the Johns Hopkins Hospital on the Medical Profession of Baltimore. By John Van Bibber, M.D.

Transactions of the State Medical Society of Arkansas, at its Fourth Annual Session.

A PECULIARITY OF THE RICKETY PELVIS.—Prof. Depalu (*Gaz. des Hôp.*) has called attention to a deformity of the rickety pelvis, which is only occasionally observed. A pelvis thus affected presents, at certain points of the upper aperture, besides a contraction, some sharp, bony lamellæ, capable of cutting like a knife, corresponding in position to certain muscular insertions at the symphysis pubis, or the ilio-pectineal eminence. These lamellæ cause serious mischief; for on the head of the child pressing its uterine covering against their sharp edges, an incision or even true perforation of the uterine wall may be the consequence. In three such cases D. had known a true hole to have been produced, establishing a communication between the cavity of the uterus and neighboring parts. These bony projections, hidden by tendinous or muscular insertions, cannot be detected during labor.

TAPE-WORM IN A FISH.—A fishmonger in Berlin, who had lately received a considerable supply of fishes from the German Ocean, found a tape-worm of the length of two and a half meters in a carp. The worm belonged to the class *Coryophyllacus latus*, which species is occasionally met with in the intestines of the carp, pike and some birds who mostly live on fish.—*Hosp. Gaz.*

Summary.

Collaborators:

DR. H. GRADLE, DR. L. W. CASE, DR. R. PARK,
DR. R. TILLEY.

PRACTICAL MEDICINE.

LARYNGEAL VERTIGO. Report of Clinic of M. Charcot. (*Le Progrès Médical*, April 16, 1879).

The above phrase was used by J. R. Gasquet in the *Practitioner* of August, 1878, but its corresponding French term, *Vertige Laryngé* was used by Dr. Charcot in a communication to the Society of Biology, Nov. 19, 1876. The following case is given as a specimen of several in virtue of which the name was suggested:

M. G., age 45; first attacked on the 20th July, 1878, with an ordinary bronchitic affection, which rapidly yielded to treatment, but there remained in the region of the larynx an almost constant tickling and burning sensation. This sensation increased, occasionally, all at once, and was followed by violent paroxysms of coughing. In the month of August M. G. was suddenly awakened out of sleep by one of these paroxysms. He got up, lost consciousness almost immediately, and a few minutes later recovered and found himself lying upon the floor. From this time these crises frequently returned, sometimes three or four times a day. Consciousness was always lost; sometimes he fell in the street, coming to himself in a few minutes without any derangement of ideas, but at the same time without any memory of what took place during the attack, remembering only the tickling sensation of the throat and the immediate appearance of vertigo.

According to the testimony of attendants, his face became congested and somewhat purple. Occasionally convulsive movements appeared in the face and limbs; no initial cry, no involuntary discharge of urine. He never bit his tongue and never experienced nausea or vomiting at the time of recovery. Laryngoscopic examination revealed no lesion.

The trouble disappeared in three weeks on the use of flying blisters to the region of the larynx, and heavy doses of bromide of potassium.

An observation, referred to by Dr. Charcot, recorded by Dr. Sommerbrodt (*Berliner Klin-Wochenschrift*, 25th Sep. 1876), informs us of a man, age 54 years, for some time the subject of attacks of apparent epilepsy with special laryngeal symptoms. A tumor of the larynx having been recognized and removed, the apparent epileptic attacks ceased. This case is quoted to show that such attacks may be brought on by an irritation of the larynx. In the other cases given no lesion of the larynx was observed.

Dr. Charcot recognizes two degrees in these attacks corresponding to the *haut mal* and *petit mal* of epilepsy. In the former case, complete loss of consciousness takes place, though it lasts but a few seconds, scarcely minutes; certain convulsive movements of the face were well marked. In the latter class the exciting cause fails to produce complete loss of consciousness and the other phenomena associated with the greater disturbance.

Its differential diagnosis from the true epileptic attack and from similar consequences associated with affections of the labyrinth is: it is always associated with a tickling and burning sensation or other irritation in the region of the larynx or upper part of the trachea. The loss of consciousness is of short duration; there is no stupid expression on the countenance at the close of the attack; no nausea or vomiting; no biting of the tongue; no involuntary discharge of urine, and no excessive sensibility of the organ of hearing preceding the attack.

PATHOLOGY.

HERVIEUX AND PASTEUR ON SEPTICÆMIA. The following abstract of a discussion, in the Academy of Medicine, in Paris, session of May 6th, 1879, between the distinguished author Dr. Hervieux and M. Pasteur, on the subject of the "germ theory" and puerperal septicæmia, is reported in *Le Progrés Medical*, May 10, 1879.

"In reply to a previous communication by M. Pasteur on puerperal septicæmia, M. Hervieux called attention to the obscurity which surrounds the doctrine of that illustrious experimenter. Is the supposed microbion of puerperal septicæmia the product or the productive cause itself of the malady? If the pathogenetic power is the attribute of the microbion, that parasite should be discovered only where puerperal septicæmia exists. Now, according to Pasteur, the microbion is found everywhere, in common water. On the other hand, all lying-in women who use water, either as a drink, or in injections, or for purposes of cleanliness, should be invaded by this infectious parasite. The mortality of these patients is too variable a factor to be reconciled with any such hypothesis. This great question of the almost exclusive predilection of puerperal septicæmia for certain localities — notably for the obstetrical wards of a hospital — can be resolved by a single word: *agglomeration*.

"How and why does the supposed microbion of puerperal septicæmia appear with its septic characteristics in a lying-in hospital? The organisms discovered by Pasteur in the blood and lochial discharges of two women who have succumbed to puerperal septicæmia do not prove that they were the productive cause of puerperal intoxication.

The force which we invoke, and which surpasses the energy of the so-called septic parasites, is a special poison engendered by crowding together the newly delivered mothers. The microbion is not the poison; it is the parasite of the poisoned tissue; it is as truly a parasite as thrush in the mouth of a patient with enteritis, or as the lice upon the scalps of young children afflicted with eczema capitis. The germ theory will never become really fruitful until clinical observation shall be in complete accord with physiological experiment. As for the application of the germ

theory to puerperal septicæmia, M. Hervieux considers our observations of the hypothetical microbion of puerperal septicæmia as so many elements out of proportion with the fundamental facts of nosology. The microbion, reputed to be so fatal to the population of pregnant females, must be an ordinarily inoffensive parasite, for it is found everywhere, and can be very easily detected in water. It is only — according to the hypothesis — in certain conditions that it acquires the septic character, particularly when associated with the microbion which Pasteur considers as the generator of pus. It must, therefore, be a creature sometimes single, sometimes double, sometimes inoffensive and sometimes murderous in its character. It cannot, then, be like all other virulent agents, always identical with itself.

M. Pasteur expressed regret that he could not reply with facts of a positive, unquestionable and decisive nature, and declared that he had never announced the existence of a parasite peculiar to puerperal septicæmia (!) However, the facts which he had published appeared to him very encouraging and capable of explaining hypotheses which would probably at some future time become certainties.

M. Hervieux declared his willingness to agree with M. Pasteur from the moment of his acknowledgment of the non-existence of the puerperal microbion, provided only that he will busy himself with actual facts. "As for M. Pasteur's charge that I do not believe in the germ theory, I will reply that if such were not the case, I would not suffer myself to discuss the application of this theory to puerperal septicæmia, which would lead me to a blind application of the treatment which is its logical consequence."

THERAPEUTICS.

SYPHILIS IN RELATION TO MARRIAGE.—(*Gaz. des Hôpitaux*). The following are, in brief, the points made by Dr. Fournier in two lectures delivered in January:

A man may marry after having had syphilis, but he ought to marry only on certain conditions, which we must determine. One who marries with unextinguished syphilis is dangerous as a husband, father and a member of society.

1. He is dangerous as a husband, by reason of lesions to which his wife is exposed; and in two ways. One, by simple, vulgar contagion, in the intimate relations of conjugal life; the other, by placental contagion, the mother, being or having been pregnant, having contracted the disease from the infant, and not directly from the husband. Contagion through placental exchange is an absolute fact.

2. He is dangerous as a father. It should be held as a constant fact that a syphilitic father is a source of danger to the offspring; nevertheless, sypilitic heredity proceeding from the father alone, the mother remaining unaffected, is much less terrible than has been asserted. For an infant born of syphilitic parents there are three alternatives. (a) Either it is dead at birth, or (b) it will be born at term subject to the disease, or (c) it will survive with compromised health.

3. He is dangerous as a member of society. This consideration is too self-evident, and its moral and physical bearings too generally admitted to require reproduction. Let it be sufficient to call attention to the immense responsibility to society he incurs by marrying when thus infected.

Passing now to consider the conditions under which a syphilitic should be allowed to venture on matrimony, we find that they enumerate themselves as follows:

1. The absolute absence of actual symptoms. This cause of exclusion seems so obvious that it seems superfluous to insist upon it; yet we must not be deceived, for examples of this incredible and criminal audacity have been observed over and over again.

2. The advanced period of the disease. We may commit to memory this axiom — the younger the syphilis of the husband, the graver are the dangers he conveys by marriage; and conversely, the older the disease the more favorable the chances of escape. It is recent syphilis which causes most danger by contagiousness, and it is in the first six, ten or twelve months that its manifestations are more disseminated, dangerous and disposed to relapse. Nothing relapses like a condyloma, and we may see erosions of the mouth reproduced in smokers ten or twenty times within a short period. The recent accidents of syphilis are so much the more redoubtable, in that their favorite sites are the mouth and genitals — localities especially dangerous in relation

to contagion in married life. In the secondary stage, also, the phenomena are more dangerous only because apparently so benign and insignificant. In their apparent benignity is their greatest danger. The conclusion to be drawn is, that the advanced age of a syphilis is an essential condition for marrying. What should be its duration? This is an extremely delicate point, but in order to lay down a rule, we may say that a syphilitic should not dream of marrying until a minimum of four years has passed; and he had better wait still longer.

3. A certain period of immunity should have elapsed since the last accident. This offers a guaranty which is, for several reasons, necessary. For this period of repose we should fix a minimum limit of eighteen months to two years.

4. The unmenacing character of the syphilitic diathesis. There assuredly exist slight and grave syphilis; the former confined to a small number of superficial accidents, while the latter give rise to deep seated lesions, even when treated. Now the quality is a very essential condition to be considerd. The three principal types of the latter, or grave form, are: (a) That one remarkable for the incessant reproductions of the same accidents, though these may be very superficial. (b) Those which are grave on account of intensity, multiplicity and nature of the accidents produced, and which at an early period affect the tertiary form, become visceral, and remain refractory to treatment. (c) That which invades organs essential to life, e. g., the brain, cerebral syphilis being especially dangerous.

5. A sufficiently prolonged specific treatment. This is the capital condition, par excellence. We may at the present time affirm that syphilis treated energetically at its commencement, and for a sufficiently long time, has no tertiary period. Treatment also diminishes and suppresses the cause of contagion and chances of heredity.

Conclusions. To any syphilitic subject who does not fulfil the above five indispensable conditions, we ought to refuse marriage. Rarely will an imprudent person, who has married in spite of the advice of his physician, not have to repent it, while those who have married with the consent of their medical adviser have neither proved dangerous to their wives nor children.—*Med. Times and Gazette.*

Obituary.

IN MEMORIAM.—Theodore W. Stull, M.D., died at his home in Marengo, McHenry county, Illinois, of phthisis pulmonalis, May 8th, 1879, after a protracted illness. Dr. Stull was born in Smithport, Pennsylvania, in 1833. When six years of age his parents removed to Marengo, Illinois. He was reared upon a farm, received a common English education and taught school for a couple of years, after which he studied medicine, and was graduated at Rush Medical College, Chicago, Ill., Feb. 25th, 1861 He immediately sought a location for the practice of his profession in Missouri, where he remained but a few months. Upon the breaking out of the war, he returned to Illinois, and together with many of his young associates enlisted as a private in Company H. of the Eighth Illinois cavalry, which regiment was being raised at St. Charles, Ill., by Gen. Farnsworth. He was mustered into the U. S. service Sep. 18th, 1861. After the regiment reached Washington, Dr. Stull was appointed hospital steward, and July 1st, 1863, was promoted to assistant surgeon, in which capacity he served until mustered out at the close of the war. The regiment to which he belonged served with distinction in the Army of the Potomac, being engaged in most of the great battles fought by that army, and in many minor engagements in which the cavalry only took part. Both as soldier and surgeon Dr. Stull displayed a noble patriotism, a tender heart and a skill which reflected credit upon his Alma Mater. None but those who have served in a similar capacity can appreciate the responsibility resting upon a surgeon at the time of and after a great battle, or even a small engagement. And it is then that the man, as well as the skillful surgeon, can display his most

brilliant qualities. In such positions Dr. Stull was cool, collected and thoughtful, and won the esteem of his fellow-surgeons as well as comrades. But in the desolation which epidemic disease caused in the camp during the long, weary winters, when typhoid fever, dysentery, diarrhœa, measles and small-pox threatened the destruction of our army, the endurance and skill of the surgeons were put to the most trying test. And as one who knows by his presence and participation in these labors, I must say that in camp and hospital Dr. Stull displayed his true worth, and none who received his kind and skillful attention and who lived to recover, but cheerfully give him credit for more than ordinary ability and untiring attention to his patients.

Being of a modest and retiring nature, his abilities were best known to his most intimate friends. At the close of the war he returned to his home in Marengo, Ill., and at once entered into a large and lucrative practice, which he successfully prosecuted until prevented from further labor by the disease which terminated his life. He was a member of the Fox River Valley Medical Association, and contributed much to the usefulness and prosperity of the society. April 15th, 1868, he was married to Miss Aurora M. Adams, of Marengo, Ill. He proved as devoted to his family and domestic life as to his profession. He leaves a wife and three daughters to mourn his early death. Thus are fast passing away the heroes of the late war; but their memories will be cherished by those who knew and could appreciate their worth while memory lasts, or the records of the late war are permitted to endure. ABNER HARD.

AURORA, ILL., June 10th, 1879.

WE regret that in making up the July number an error was made, to the extent of leaving out sixteen pages; that is, from page 97 to page 112 inclusive. We will gladly rectify the error, if subscribers will return the imperfect copies.

We also regret that in some copies of the same number the lithograph illustrating Dr. Earle's article is inverted. This can be corrected when the volume is bound.

Items.

THE AMERICAN ACADEMY OF MEDICINE.—This association of physicians was organized September, 1876, at Philadelphia, during the sessions of the International Medical Congress, when Traill Green, M.D., LL.D., of Easton, Pa., was elected its first President. Subsequently, meetings were held in New York (1877), and in Easton, Pa. (1878), at which Frank H. Hamilton, M.D., LL.D., of New York, and Lewis H. Steiner, A.M., M.D of Frederick, Md., were respectively chosen as Presidents. At these meetings the organization was more thoroughly perfected, and numerous accessions were made to the membership.

The objects of the Academy are thus broadly stated in its Constitution:

First. To bring those who are alumni of collegiate, scientific and medical schools into closer relations with each other.

Second. To encourage young men to pursue regular courses of study in classical or scientific institutions before entering upon the study of medicine.

Third. To extend the bounds of medical science, to elevate the profession, to relieve human suffering, and to prevent disease.

The following extract from the Annual Address of Dr. Frank H. Hamilton, President of the Academy, September, 1878, fully explains the purposes of its institution:

"The founders of this society sought, especially, by its organization, to aid others who are engaged in similar effort in this country, but who are working by other means, to remedy a great, and universally admitted evil, namely, imperfect preparation for the study of medicine, and its almost inevitable sequence, imperfect qualification on the part of those who are admitted to practice.

"There are many things which we can do more or less effectively. We can labor to create a sound public sentiment, which shall in some measure influence medical colleges and medical men, but more especially to create a sound sentiment among the young men who are contemplating the study and practice of medicine. They must be persuaded that it is unbecoming for them to enter upon the study of a learned profession without suitable classical and scientific knowledge, and without mental discipline; that it is impossible for them without this knowledge and discipline to make any respectable attainments in the science of medicine, and that it is shameful for them to enter upon the practice of medicine, and attempt to minister to the physical sufferings of their fellow-beings, without a competent knowledge of their science.

"Almost the entire medical profession in this country, including even most of that very large proportion who have not had the advantages of a thorough preliminary training, are urging its utility or necessity; the medical associations have, in all parts of the United States, again and again declared its importance, and especially is this true of the American Medical Association. The American medical journals have unanimously insisted upon radical changes in this respect; the professors and the alumni of medical colleges at their annual commencements, and in their social gatherings, have reiterated the same sentiment; but the work of reform in this direction is not yet accomplished. They need further help, and we have put our hands together to help them.

"Our association is not intended as a substitute for any other association of medical men; but we propose to supplement their labors. We fully believe that we can be useful in some small degree, and we shall not cease our efforts or disband our organization, until the needed reforms are accomplished."

The Fellows of the Academy must be Alumni of respectable collegiate institutions, who have received therefrom:

1. The degree of Bachelor of Arts, after a systematic course of study, preparatory and collegiate;

2. The degree of Master of Arts in accordance with the usage of these institutions;

3. The degree of Doctor of Medicine, after a regular course of study, not less than three years, under the direction and instruction of preceptors and professors. They must have also had an experience of three years in the practice of medicine.

Candidates for fellowship must be recommended by at least one Fellow, and be approved by a majority of the Council, after which the consent, by ballot, of two-thirds of the Fellows present will secure their election.

The initiation fee is $5.00, to be paid before initiation and registration.

Blank forms of application for fellowship can be obtained from the Secretary.

The annual meeting for 1879 will be held September 16, in New York. RICHARD J. DUNGLISON, M.D., *Secretary.*

P. O. Box 2386, Philadelphia.

HINDOO MEDICAL SCIENCE.— An appeal has been made by a Calcutta Baboo, named Rajendianath Datta, for a sum of 22,000 rupees wherewith to found a "free Ayur Veda College for the education of Hindoo physicians." The prospectus states "that in India, treatment, according to the Hindoo system of medicine, is generally more efficacious than that according to a foreign one. As our bodies are formed of and nourished by Indian materials, it would be against nature if medicines brought from foreign countries suit our constitution in time of illness. It is a fact greatly to be deplored that, owing to the influence of various social changes to which India has been subject, the hard earned gems of Hindoo medical science have become dim and soiled by disease, and are about to be lost and forgotten." If the Baboo cannot get the whole amount asked for, he is content to start on a smaller scale. That he relies stongly on the "gems of Hindoo science" is evidenced by the item in the monthly estimates for the purchase of "rare medical works from distant places," twenty-five rupees, which would certainly, at the present rate of exchange, represent a very modest library fund.—*Hosp. Gaz.*

ANNOUNCEMENTS FOR THE MONTH.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, August 4 and 18.
West Chicago Medical Society—Mondays, August 11 and 25.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 p. m., Ophthalmological, by Prof. Holmes; 3 p. m., Otological, by Prof. Jones.
Mercy Hospital—1:30 p. m., Surgical, by Prof. Andrews.
Rush Medical College—2 p. m., Dermatological and Venereal, by Prof. Hyde; 3 p. m., Medical, by Dr. Bridge.
Woman's Medical College—2 p. m., Dermatological, by Dr. Maynard.

TUESDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—1:30 p. m., Medical, by Prof. Hollister.

WEDNESDAY.

Chicago Medical College—1:30 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Chicago Medical College—1:30 p. m., Medical, by Prof. Quine.
Rush Medical College—3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—1:30 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn.
Chicago Medical College—2 p. m., Surgical, by Prof. Isham; 3 p. m., Neurological, by Prof. Jewell.
Woman's Medical College—11 a. m., Ophthalmological, by Dr. Montgomery.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.